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Diabetes Prevention and Management

A food with a high glycemic index (GI) raises blood glucose. Eating a diet comprised of foods with a low glycemic index can help prevent and manage diabetes.

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The Glycemic Index

The glycemic index, or GI, measures how a carbohydrate-containing food raises blood glucose. Foods are ranked based on how they compare to a reference food—either glucose or white bread. A food with a high GI raises blood glucose more than a food with a medium or low GI.

Meal planning with the GI involves choosing foods that have a low or medium GI. If eating food with a high GI, you can combine it with low GI foods to help balance the meal. Examples of carbohydrate-containing foods with a low GI include dried beans and legumes (like kidney beans and lentils), all non-starchy vegetables and some starchy vegetables, most fruit and some grains like quinoa. Meats and fats don't have a GI because they do not contain carbohydrates.

What affects the GI of a food?

Fat and fiber tend to lower the GI of a food. As a general rule, the more cooked or processed a food, the higher the GI; however, this is not always true.

Below are a few specific examples of other factors that can affect the GI of a food:

- **Processing**: Juice has a higher GI than whole fruit; mashed potato has a higher GI than a whole baked potato. Most bread tends to be highly processed and therefore has a high GI. Quinoa and converted or brown rice are both lower GI.
- **Cooking method**: how long a food is cooked (al dente pasta has a lower GI than soft-cooked pasta)
- **Variety**: converted long-grain white rice has a lower GI than brown rice but short-grain white rice has a higher GI than brown rice.

Is the GI a better tool than carbohydrate counting?

Based on the research, for most people with diabetes, the first tool for managing blood glucose is some type of carbohydrate counting. Balancing total carbohydrate intake with physical activity and diabetes pills or insulin (if needed) is key to managing blood glucose levels.

Because the type of carbohydrate does have an effect on blood glucose, using the GI may be helpful in "fine-tuning" blood glucose management. In other words, combined with carbohydrate counting, it may provide an additional benefit for achieving blood glucose goals for individuals who can and want to put extra effort into monitoring their food choices.

The GI of Foods

The GI is a ranking of foods based on how quickly they raise blood glucose levels. The reference foods, white bread or glucose, have a GI of 100.

Low GI Foods (55 or less)

- Almonds, cashews, pumpkin seeds, brazil nuts
- Apples, pears, papaya, mango, pineapple
- Avocado/guacamole
- Chickpeas/hummus
- Most fruits, non-starchy vegetables and carrots
- Oranges, grapefruit, lemon/lime
- Quinoa, converted rice, brown rice
- Sweet potato, yam, lima/butter beans, peas, legumes and lentils

Medium GI (56-69)

- Popcorn

- Old fashioned oats
- Apple juice, unsweetened
- Bran Chex
- White rice, white potatoes

High GI (70 or more)

- White bread or bagel
- Corn flakes, puffed rice, bran flakes, instant oatmeal
- Shortgrain white rice, rice pasta, macaroni and cheese from mix
- Russet potato
- Pretzels, rice cakes, popcorn, saltine crackers
- Pastries/croissants

Resources

The content on this page has been sourced from the American Diabetic Association. You can visit them online at www.diabetes.org (http://www.diabetes.org).

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Research has shown that physical activity may help people with diabetes, and may play a role in preventing type 2 diabetes.

Glycemic Index and Diabetes (/groWeb/s/article.xhtml?nodeId=815040&conversationContext=5)
Glycemic index, or GI, is a system of ranking foods that measures how a carbohydrate-containing food raises blood glucose.

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