



The Glycemic Index

People with diabetes have been advised to eat a high carbohydrate diet for many years. Carbohydrates are an essential part of a nutritionally balanced eating plan.

Foods Containing Carbohydrate

- Breads and crackers
- Cereals such as rice, pasta, noodles, breakfast cereal
- Starchy vegetables such as potatoes, peas, corn
- Legumes such as beans, lentils, chickpeas
- Fruits and fruit juices
- Milk and yoghurt
- Table sugar, honey, jam, soft drink, lollies
- Snack foods such as cakes, biscuits, potato and corn chips

Not all carbohydrate foods are the same. Traditionally, carbohydrate-containing foods have been classified as either containing simple sugars; like fruit, dairy foods and table sugar, or complex carbohydrates; like breads, cereals, legumes and starchy vegetables. This was based on the physical structure of the carbohydrate in the food.

What is the Glycemic Index?

The Glycemic Index is a method of classifying carbohydrate foods which can assist in making healthy choices. It is a measure of the effect that a carbohydrate containing food has on blood glucose levels compared to the effect of an equal-carbohydrate portion of glucose on blood glucose levels.

What does the GI tell us?

The GI gives us a ranking of carbohydrate containing foods based on the effect that food will have on a person's blood glucose level.

This is not determined only by its sugar content. In fact, many foods that are high in complex carbohydrates (starches) affect blood glucose levels more rapidly than foods that are high in sugar.

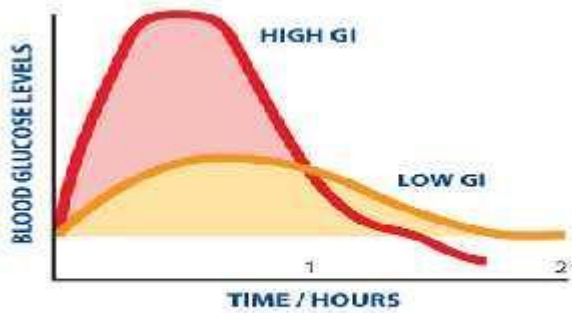
How can the GI benefit me?

Research has shown that by eating a diet with a lower GI, people with diabetes can reduce their average blood glucose levels. This is important in reducing the risk of developing diabetes-related complications.

A healthy eating plan that incorporates low GI foods combined with physical activity can help reduce the risk of heart disease. This is achieved by improving the body's ability to use glucose for energy and helping to lower blood fats (triglycerides) and raise HDL ("good") cholesterol. Lower GI foods may also help improve satiety (feelings of fullness), which may help with weight management

How is the GI measured?

Firstly, a small group of volunteers are each given a serve of the food being tested that contains a specified amount of carbohydrate (usually 50 grams). Their blood glucose levels are measured every 15 to 30 minutes over the next 2 hours. The results are then plotted on a graph, and a computer program measures the size of the graph. The average response of the group to each food is then compared to the response to the standard (glucose) to create the GI.



The amount of carbohydrate in the reference and test food must be the same.

Ref: <http://www.glycemicindex.com/>

A more complete list can be found in Low GI Diet Shopper's Guide 2011 by Prof Jennie Brand Miller, Kaye Foster-Powell, with Fiona Atkinson (Published by Hachette Australia, 2011).

What do the Numbers Mean?

To help us make sense of the numbers, foods can be categorised as low, intermediate or high GI:

- Low GI foods are foods with a GI less than 55. They cause a slower and lower rise in blood glucose levels.
- Intermediate GI foods are foods with a GI between 55 and 70. They cause blood glucose levels to go up at a moderate rate.
- High GI foods are foods with a GI greater than 70. They cause a faster and higher rise in blood glucose levels.

What factors affect the GI of a food?

There are many factors that influence the GI of a food. These include the type of sugar in the food, the type of starch, food preparation, the food's acidity, and its fat and fibre content. Because of this, it is difficult to predict what the GI of a food will be just by looking at its ingredients.

Simple steps to a lower GI diet

Incorporating the Glycemic Index into your eating plan is surprisingly easy. Try these simple tips:

1. Begin with a healthy, balanced diet from a variety of foods. Low fat is still the first priority.

2. Use low GI foods instead of high GI alternatives.
3. You do not have to avoid all high GI foods, but try and eat them with low or intermediate GI foods whenever possible. This will bring down the average GI of the meal
4. Have at least 3 low GI foods throughout the day, ideally one at each meal. All carbohydrates that you eat do not need to be low GI.

Remember:

- The GI only relates to carbohydrate rich foods
- There is no need to eat only low GI foods
- Consider both the GI of the food and the amount of carbohydrate it contains
- The GI is intended to be used along with The Dietary Guidelines for Australians

The Dietary Guidelines for Australians

Enjoy a wide variety of nutritious foods

- Eat plenty of vegetables, legumes and fruits
- Eat plenty of cereals (including breads, rice, pasta and noodles), preferably wholegrain
- Include lean meat, fish, poultry and/or alternatives
- Include milks, yoghurts, cheeses and/or alternatives. Reduced-fat varieties should be chosen, where possible
- Drink plenty of water

And take care to:

- Limit saturated fat and moderate total fat intake
- Choose foods low in salt
- Limit your alcohol intake if you choose to drink
- Consume only moderate amounts of sugars and foods containing added sugars

Prevent weight gain: be physically active and eat according to your energy needs

Care for your food: prepare and store it safely

Encourage and support breastfeeding

| Low GI Less than 55 | Intermediate GI 55 - 70 | High GI Higher than 70 |
|--|---|---|
| Breads All Burgen™ breads, Tip Top Spicy Fruit Loaf™, quality sourdough, Tip Top 9 Grain™, San Diegos™, Select™ and Mission™ corn tortillas, Baker's Delight Wholemeal Country Grain and Cape Seed Loaf™ | Hamburger bun, rye bread, light rye, crumpet, chapatti, pita bread, Wonder White Lower GI™, Tip Top UP EnerGI™, Tip Top Raisin Toast Retreats™, | White bread, wholemeal bread, bagel, blackbread, Wonder White™, gluten-free bread, Lebanese, Turkish & Italian bread, English muffins (white), pikelets |
| Breakfast Cereals All Bran™, Guardian™, Special K Original™, untoasted muesli, eg Morning Sun™ rice bran, oatbran, Soyтана™ Sustain™ Goodness Superfoods™ Protein 1 st , Digestive 1 st and Heart 1 st ™ | Traditional oats and porridge, Just Right™, Nutri Grain™, Vitabrits™, Weet Bix™, Mini Wheats (5 Grains)™, Sultana Bran™ | Shredded Wheat, flavoured Miniwheats™, Quick oats, Cornflakes™, Puffed Wheat™, Rice Bubbles™ |
| Grains, Rice, Noodles Pearl barley, pasta (except most gluten free), rice noodles, soba noodles, mung bean noodles, bulgur, quinoa, semolina, Blu Gourmet™ pearl cous cous, basmati rice Mahatma™ long grain rice, Sunrice Doongara Clever Rice™ | Wild rice, Sun Rice Arborio™ rice, Sri Lankan Red Rice, couscous, cornmeal, polenta, udon noodles, gnocchi | Brown rice, calrose rice, jasmine rice, broken rice, glutinous rice, tapioca |
| Legumes All varieties: kidney beans, chick peas, lentils, baked beans, soy beans, split peas etc | | |
| Starchy Vegetables Carisma™ potatoes, sweet corn, peas, parsnips, yam, cassava, taro | Sweet potato (orange) New potatoes (canned) | Other potatoes, sweet potato (purple skin) |
| Fruit Grapefruit, peach, apricots, apple, pear, plums, orange, grapes, kiwi fruit, mango, banana, dates, berries | Sultanas, raisins, pawpaw, pineapple, cherries, fresh lychees, dried cranberries, dried figs | Canned lychees, watermelon, rockmelon, cantaloupe |
| Dairy foods Milk, soy milk, yoghurt, custard, ice cream | Oat milk | Rice milk |
| Biscuits & Cake Highland Oatmeal™, Arnott's Snack Right™, Rich Tea™, Ryvita™ varieties with oats, Big Sister™ Fruit Cake | Shredded Wheatmeal™, Milk Arrowroot™ | Real Foods Corn Thins™ Morning coffee biscuits™ Sao™, Kavali™, puffed rice cakes, rice crackers, water crackers |



Simple Ideas to Lower the GI of Your Meals:

Breakfast

- Porridge with low fat milk or soy milk topped with honey
- Toasted low GI bread of your choice with a scrape of olive oil or canola based margarine and vegemite, jam or peanut butter
- Low-fat fruit yoghurt or plain low-fat yoghurt topped with fresh fruit
- Toasted Burgen Mixed Grain™ bread topped with baked beans or a poached egg
- Low GI cereal of your choice with low fat milk or soy milk and topped with fresh strawberries or sliced banana.



Light Meals

- Try your favourite sandwich filling with low GI bread such as Burgen Soy-Lin™ or 9 Grain Tip Top™
- Home made minestrone or lentil soup with a grainy roll
- Have a bowl of pasta with a tomato based pasta sauce and a sprinkle of parmesan cheese
- Eat a fresh garden salad with 4-bean mix (or bean salad) and a slice or two of low GI bread of your choice.
- Prepare a fruit salad with your favourite fruit and top with a low fat yoghurt



Main Meals

- Grill your favourite lean meat or chicken and serve with orange sweet potato, sweet corn and broccoli
- Stir fry some lean beef or pork strips and mixed vegetables and serve with fresh wheat noodles or basmati or Doongara™ rice
- Prepare some lasagne with lean mince, fat reduced cheese and add 3-bean mix for extra variety
- Make your favourite low fat curry and serve with basmati or Doongara™ rice and pappadams (micro waved not fried)
- Team a barbequed chicken (remove the skin) with steamed sweet corn cobs, grainy bread roll and a tossed salad.

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For more information call Diabetes
WA on 1300 136 588