



GLYCAEMIC INDEX

The glycaemic index - what does it mean?

Low fat, high protein, high carbohydrates. These are some of the diet trends people are faced with. To add to the confusion is the recent introduction of the Glycaemic Index (GI) to compare foods containing carbohydrates.

The GI refers to the immediate effect that a carbohydrate (CHO) containing food has on blood glucose levels. The GI only relates to foods that contain carbohydrates – foods that are high in fat and/or protein with a low carbohydrate content have a GI = 0.

WHAT ARE CARBOHYDRATES?

There are three main nutrients in food, carbohydrates, protein and fat.

There are many types of foods that contain carbohydrates such as pasta, bread, sugar, fruit, honey, cereals, biscuits, milk soft drink, lollies and potatoes. Carbohydrates are made up of a number of different sugars (lactose, sucrose, fructose and glucose) as well as more complex structures called starches.

All carbohydrate foods (consisting of sugars and starches) predominately break down to glucose when eaten, which the body uses for energy just like a car uses petrol. Fat in foods breaks down to fatty acids and protein breaks down to amino acids.

WHAT IS GLYCAEMIC INDEX?

Equal amounts of carbohydrates must be used to test the GI of a food. Fifty grams of carbohydrate from the test food is used and tested against 50 grams of pure glucose. As some foods are very low in carbohydrate a large quantity of the food is needed for testing, this may be far more than a normal serving of the food.

A carbohydrate that is digested and absorbed quickly has a high GI. For the same amount of carbohydrate, foods with a lower GI raise blood glucose less than those with higher GI values. Lower GI foods may control appetite and aid weight loss.

The GI of pure glucose is set at 100 and every other food is ranked between 0 and 100 according to the effect on blood glucose levels. A high GI food is given a value of 70 or more. A medium GI is 56 to 69 and a low GI value is 55 or less.

Many carbohydrates containing foods have been tested. Some common examples are:

HIGH GI

Rice Bubbles TM, white bread, potatoes, Roll Ups TM, Gatorade

INTERMEDIATE GI

Weetbix TM, Basmati and Doongara Rice, banana, wholemeal bread



LOW GI

Most fruit, rolled oats, baked beans, wheat based pasta, multigrain bread, low fat milk and yoghurt. For a complete list view the books and websites listed at the end of this article. Many dieticians are concerned that more education on GI is required for the general public. Debbie Schofield, a Dietician at Diabetes Australia said “If not it may become another confusing nutrition message for the public to decipher”.

Some people have been told to only eat foods with a GI less than 60. This is a restrictive and inaccurate way to use the GI, as many high GI foods such as potato and rice are still great sources of carbohydrate, vitamins, minerals and fibre and should not be omitted. Eating a wide variety of nutritious foods is still the most important aspect of your diet. Particularly foods rich in carbohydrates, low in saturated fat and high in fibre.

SO HOW CAN YOU USE THE GLYCAEMIC INDEX?

- Try to include a low GI food at each meal. This can lower the affect of the whole meal on your blood glucose level. Low GI foods are also very filling and may assist people to lose weight.
- Consider both the GI and the amount of carbohydrate the food contains. For example, watermelon (a high GI food, 72) is low in carbohydrate. You need to eat 1kg to consume 50g of carbohydrate. Spiral pasta (a low GI food, 48) is high in carbohydrate. You need to eat only 200g (1 1/3 cups) to consume 50g carbohydrate.
- Use the GI to compare foods of similar composition and in the same food group.
- It is OK to still consume foods with a high GI when eaten with a lower GI food.

THE GLYCAEMIC INDEX CAN PARTICULARLY BENEFIT YOU IF YOU:

- Have Diabetes (assist in maintaining blood glucose levels)
- Are trying to lose weight (increase feeling of fullness, decrease appetite)
- Wish to reduce the risk of heart disease (improve levels of good cholesterol)
- Are striving for peak sports performance (increase endurance and aid recovery)

The presence of fat, fibre and starch determine how quickly we digest and absorb the glucose from carbohydrates. The presence of fat can lower the GI of a food. Be cautious of high fat foods that have a low GI, especially if the fat is mainly from animal products. For example the GI of chocolate is 49, lower than white bread, however white bread has far less calories and fat and provides more fibre.

THE GI SYMBOL

A new labelling system was launched in Australia in 2002 called the GI Symbol. This is to inform consumers of the GI of food products. Remember to look for foods that are lower in fat and higher in fibre first and then consider the GI once a healthy choice has been made.

The GI symbol can assist you in making healthy choices as all foods displaying the GI symbol have acceptable kilojoule, total and saturated fat, sodium and where appropriate fibre and calcium levels. There



are currently a small number of manufacturers registered to use the symbol as it is a voluntary program and there is a cost involved for testing.

Only those companies displaying the GI symbol can guarantee their product has been tested by an accredited laboratory. There are however foods with a low GI that may not display the symbol, though this does not mean that the food is unsuitable.

SO WHAT IS THE BOTTOM LINE?

Foods should not be judged on GI alone. GI is best used to choose between foods in the same food group. Other factors, such as type and level of fat, type and level of fibre, type and amount of vitamins and minerals should also be considered when choosing foods.

The GI is a useful tool to assist people to control their blood glucose levels and should be used to complement other nutrition messages.

For more information on the GI go to www.glycaemicindex.com or read 'The Low GI Shoppers Guide to GI Values 2007' by Brand-Miller and Foster - Powell published by Hachette 2006, The New Glucose Revolution Shopper's Guide to GI Values, The Authoritative Source of GI Values for More than 500 Foods by Brand-Miller, Foster-Powell and Atkinson published by Marlowe & Company 2007.

Specific nutrition advice can be sought from an Accredited Practising Dietician (APD), listed under 'Dietician' in the Yellow Pages.

People with diabetes should continue to test their blood glucose levels to determine the effect of a particular food on their blood glucose levels. For specific diabetes information please phone the Diabetes Information Advice Line on 1300 136 588 or email info@diabetesresearchwa.com.au

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