

Keeping to a healthy lifestyle is vital to improving our health and general well-being. This is particularly true if we are trying to manage our body weight or blood sugar levels. Our understanding of healthy eating has changed substantially over the last few decades. Research of Glycaemic Index (GI) has changed the way we think about diet and carbohydrate-containing foods. Estonie Yuen Wing Ting, Dietitian, National Healthcare Group Polyclinics, reports.

Carbohydrates are an essential part of our diet, as they are one of the body's major sources of energy. Carbohydrate foods are those that contain starches or sugars – e.g. rice, noodles, bread, cereals, starchy vegetables (potato, sweet potato, corn etc.), fruits, legumes, milk and yoghurt. They are digested to form glucose (sugar), which is then absorbed into the bloodstream.

The Highs and Lows of Glycaemic Index

The Glycaemic Index (GI) is a numerical way of describing how much the carbohydrate in individual foods affects blood sugar levels. It is a ranking of carbohydrate foods from 1-100, according to the rate at which they are broken down and absorbed into the bloodstream.

Foods that are broken down slowly are considered to have low GI and have a ranking between 0 and 55. Low GI foods produce relatively small fluctuations in blood sugar levels. High GI foods (those ranked between 70 and 100) will cause a rapid rise in blood sugar levels.

The GI values of some food items are listed in the table below.

Low GI (55 or less)	Moderate GI (56-69)	High GI (70 or more)
Rice & Alternatives Rolled oats Multigrain breads Spaghetti, macaroni Long grain rice (Mahatma) Semolina	Rice & Alternatives Natural muesli Wholemeal bread Dried rice noodles Basmati rice, wild rice	Rice & Alternatives Rice Bubbles, Corn Flakes, Coco Pops White bread, English muffin Jasmine rice Tapioca
<i>Vegetables</i> Sweet corn	<i>Vegetables</i> Sweet potato	Vegetables Most other potatoes
Dairy Products Yoghurt, milk, ice cream (choose low fat varieties)		
***Sugar Fructose	***Sugar Sucrose, honey	**Sugar Glucose, jelly beans

^{***} All sugars contain the same amount of energy. Limit as part of a healthy diet.

What about fruits? They are part of our healthy balanced diet and they contain plenty of essential vitamins; in general they are low-moderate GI. Fruits that should be limited are fruits canned in syrup and dried fruits



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Why choose low GI foods?

Including low GI foods in a healthy, well-balanced diet can provide many health benefits. A low GI diet can:

- Help you feel fuller for longer by reducing the appetite between meals
- Assist in maintaining a healthy weight
- Reduce the risk of developing Type II diabetes and heart disease
- Helps people with diabetes to control blood sugar levels, in particular, with the aid of soluble fibre which slows the release of glucose from carbohydrates into the bloodstream.

GI should not be used alone to determine if you should eat the particular food. You should also consider:

- The fat content of foods (For examples, potato chips and chocolate have a low GI but are high in fat!)
- The amount of food that you eat
- Having a healthy balanced diet, that is, to consume a *variety* of foods *balanced* by a *moderate* intake of each food





Factors that influence the GI of food:

- 1. The amount of soluble fibre present
- 2. Fat and protein content
- 3. The type of sugar e.g. fruit sugar is more slowly broken down than white sugar
- 4. Type of starch present e.g. the type of starch in Basmati rice versus the starch in jasmine rice
- 5. The amount of cooking or processing more cooking or processing usually speeds up absorption
- 6. The physical form of the food e.g. particle size, ripeness (the riper the fruit the more quickly it is absorbed)
- 7. The acidity of food e.g. adding lemon juice or vinegar to food, delays absorption.



Many factors can alter the GI, so it is challenging to apply the concept of GI to mixed meals. A particular low GI food does not also necessarily mean that it is naturally nutritious. Therefore, GI should only serve as a guide and not be used in isolation. Consult your dietitian if you want to know more about the GI and how to apply GI in your healthy diet plan.



How to switch to a healthy Low GI diet?

In general, you may try to include at least one low GI food at each meal and snacks. Studies show that when a high GI good is combined with a low GI food, the complete meal results in having a moderate GI.

You may also try the following low GI meal ideas:

- Choose breakfast cereals based on oats and bran – how about adding some low fat milk or yoghurt and mixed berries? Make it as your healthy, yummy breakfast
- Choose multigrain bread instead of white bread, pies and pastries
- Enjoy all types of fruit and vegetables in moderate amounts
- Try Basmati rice, brown rice, brown rice beehoon and wholemeal pasta
- Grab a couple of wheat crackers and spread with a light spread of peanut butter. You may also try a tub of low-fat yoghurt.

