

GI News—July 2009



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‘10 years younger in 10 days’ promises the TV show. Of course we know that they are talking about looking younger, and we take it with a pinch of salt or three. But it is possible to turn back the clock, although it takes a bit more effort than a brief stint on a reality TV show. In Food for Thought, dietitian Giselle Brand, who is passionate about helping people ‘add years to their life and life to their years,’ looks at what we need to do to reduce the risk of chronic disease and really enjoy the ‘golden years’.

Good eating, good health and good reading.

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Food for Thought

Enjoying the golden years

We are living longer. In fact, if you are a baby boomer or younger, chances are you will make it to the 100 mark if you are in generally good health. The real question is how are you going to get there? Will your ‘golden years’ be active and healthy ones? Or will they involve debilitating pain and chronic disease such as heart disease, cancer, diabetes, stroke and arthritis.

We have come to accept that these diseases are an inevitable part of aging. They aren’t. It is possible to reduce your risk of the chronic diseases associated with growing older by making some lifestyle changes. This is because we now know that the basis for accelerated aging and disease is low grade systemic inflammation caused by a number of lifestyle factors including being overweight, having high blood glucose, high cholesterol or high blood pressure. Chronic inflammation also plays a part as an underlying cause of excess body fat, and could explain why some people just can’t lose weight.

Throughout human history, inflammation has been both our saviour and executioner. As saviour,

it plays a central role in our immune system by killing bacteria and invading pathogens, thereby protecting us. However, when this inflammation process is chronic, our body turns on itself, attacks its own blood vessels, nerves and organs causing accelerated aging and precipitating disease.

Our lifestyle (diet, lack of exercise, lack of sleep, stress etc) has become our mortal adversary. But we can do something about it. Decreasing inflammation in the body today is the most prudent measure to resisting tomorrow's ailments.

10 really rejuvenating tips

- Don't smoke – it's never too late to quit.
- If you drink alcohol, be moderate.
- Get 7–8 hours of sleep a day.
- Maintain a healthy weight.
- Make healthy food choices.
- Reduce stress, stay in touch with friends and family, and maintain a positive attitude to life.
- Get 10–20 minutes of sunlight a day.
- Reduce insulin resistance.
- Drink water to quench your thirst.
- Exercise regularly.

For more information on 'adding years to your life and life to your years', check out Giselle's [website](#).

News Briefs

Low-fat chocolate milk and recovery after exercise

A recent study in [Medicine & Science in Sports & Exercise](#) reported that post-exercise consumption of low-fat chocolate milk provided equal or possibly superior muscle recovery compared to a high-carbohydrate recovery beverage with the same number of calories. We asked Dr Emma Stevenson to comment.

‘Several studies have reported that milk can be just as effective as sports drinks to aid recovery in athletes,’ she says. ‘This latest one has focused on having chocolate milk during recovery. However, [Cockburn and colleagues](#) found consuming plain semi-skim milk following exercise that resulted in muscle damage was more effective than a carbohydrate containing sports drink at attenuating the decrease in muscle performance and increase in creatine kinase and myoglobin (these are blood markers of muscle damage).

Another recently [published study](#) supports the earlier finding of Karp and colleagues that chocolate milk not only reduces muscle damage following exercise, but can also improved subsequent endurance capacity in well trained cyclists.

Milk has a low GI and so can be a healthier alternative to sports drinks. Further research is needed to see whether drinking milk before or after exercise is beneficial for active people (these previous studies have been carried out in well-trained athletes). It may also have beneficial effects on substrate metabolism and appetite.'

First 3 months critical

There's a growing body of evidence that the first 3 months of life is a really critical period. Dutch researchers who compared the growth of 217 infants during their first year of life with their health status as young adults found that increased weight gain relative to height during the first 3 months was associated with increased risk factors for type 2 diabetes and cardiovascular disease including reduced insulin sensitivity, lower HDL cholesterol, and higher total : HDL cholesterol ratio according to a new study in the [*Journal of the American Medical Association*](#).

Is it really heart healthy?

Despite claims that many foods and diets are heart healthy, a new study by researchers from McMaster University published in [*Archives of Internal Medicine*](#) clarifies what foods and dietary patterns are best for reducing the risk of heart disease.

The researchers evaluated almost 200 studies on diet and heart disease over more than 50 years and found overall there are certain food groups or dietary patterns that are beneficial including vegetables, nuts, monounsaturated fatty acids, and overall 'healthy' dietary patterns such as the Mediterranean diet which incorporates generous amounts of fruits and vegetables, healthy fats, such as olive and canola oil, small portions of nuts, red wine in moderation, very little red meat and fish on a regular basis. They also conclude that there's strong evidence that high GI foods and trans fatty acids are harmful.

Lead author Andrew Mente, PhD, says: 'The findings highlight the importance of improving overall diet quality to maintain good cardiovascular health. People need to be cautious and not become too preoccupied with a few individual nutrients or food items, while ignoring diet in its totality. In fact, the evidence gathered on most individual dietary components is too modest to be conclusive, and in many instances, clinical trials evaluating coronary outcomes are absent. On the other hand, the evidence clearly shows that adherence to a quality dietary pattern such as the Mediterranean diet is highly protective against coronary heart disease and total mortality.'

'Eating fish twice a week can help prevent eye disease' – behind the headlines



Visit the UK's NHS Choices website and you will find a page called *Behind the Headlines*. It takes the biggest health news stories each day, finds the real scientific evidence behind them, and gives you a clear and simple summary of The Facts under the following headings:

- Where did the story come from?
- What kind of scientific study was this?
- What were the results of the study?

- What does the NHS Knowledge Service make of this study?

Here's what NHS Choices says about the latest oily fish plus low GI foods study from Tufts University researchers. 'The complex results from this study suggest that a diet rich in the DHA form of omega-3, may reduce the progression of early stage AMD in people not taking certain dietary supplements. Also, a low GI diet rich in omega-3 may reduce the risk of progression to advanced AMD. It should be noted that the results of this research may have been affected by factors other than the dietary factors addressed and require careful interpretation. In general, eating a healthy, balanced diet, including omega-3 fatty acids and low GI foods, may have various health benefits.

In conclusion they state: 'The study did not report the number of people or eyes with AMD progression in each group. This makes it difficult to determine the importance of the reported changes in risk. Also, the authors did not report exactly how many people fell into each of the groups compared. If very few people fell into some of the groups, this would reduce the reliability of results.'

Read the whole story at the [NHS website](#).

Making traditional recipes healthier

Check out this delicious [new resource](#): The Aga Khan Health Board for the UK and theismaili.org – the official website of the global Ismaili Muslim community – have launched this online nutrition centre. It features a library of traditional African, South and Central Asian and Middle eastern recipes with nutrition info and healthy eating tips. 'This is a site about traditional recipes and how to make them healthier,' says registered dietitian & TV nutritionist Azmina Govindji. 'As the site develops, we will offer more recipes from more diverse backgrounds, as we hope that this will become a useful tool for many more communities.'



Chicken Tikka Masala

Foodwatch with Catherine Saxelby

Spotlight on psyllium

Psyllium (pronounced sill-ee-um), which looks like fine flakes of wheat bran and consists of the outer husks of *Plantago psyllium* or *Psyllium ovata* seeds, is an important source of soluble fibre. In fact, it contains 5–6 times more soluble fibre than oat bran. It's also rich in mucilages which take up water, swell and expand in size to form a gelatinous mass.

We need about 15 g (1/2 oz) of soluble fibre a day – around half of our total fibre intake – although there is no official figure. Here's what soluble fibre can do for you:

- It helps to lower cholesterol by binding to the 'bad' cholesterol and swishing it out of the body via the bowel. To make up for the drop in cholesterol, the liver draws more from our bloodstream so blood cholesterol falls.
- It also bulks up the stool volume and softness, so it's easy to pass.
- It forms a gel in the intestines, which slows stomach emptying, delaying the absorption of glucose from your blood stream.

Psyllium sounds like an obvious solution to get the soluble fibre we need. However, it's not very tasty – in fact it looks and tastes pretty much like chaff. You also need to consume a serious quantity to lower your cholesterol and this can be difficult to achieve day in, day out. The easiest way I've found to include enough psyllium in the diet is to stir it through your usual cereal or mix 2 teaspoons of it in milk or juice and drink it down once a day. Or you can stir it into fruit yoghurt and spoon it down. Make sure you eat it straight away as it gets gluggy. You can also use it in place of a quarter of the flour when you bake muffins and cakes. Being gluten-free, it helps add fibre into the diets of coeliacs.

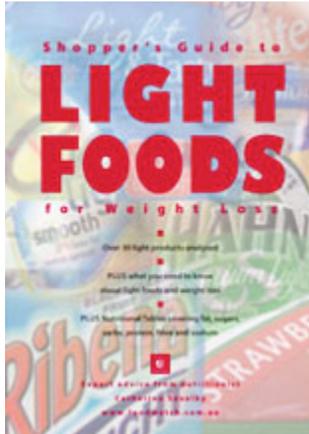
There are a couple of commercial products made with psyllium that are an easier way to get the soluble fibre you need.

Kellogg's Guardian cereal is made from whole wheat and whole barley with 12% psyllium and tastes quite pleasant for breakfast - a little like corn flakes but more golden and less crunchy (also less salty). One bowl or 2/3 cup (30 g/1 oz) gives you around 6 g fibre including 3 g soluble fibre, which is quite amazing from one single food. As a yardstick, 30 g All-Bran supplies 9 g fibre but less than 1 g soluble fibre. You'll need to consume around two-thirds of a cup of Guardian each day, although this depends on how much fruit, dried fruit, legumes or grain breads you eat (all contributors to soluble fibre). It has a very low GI (37) so makes an excellent breakfast cereal for those with diabetes.

Psyllium is the basis of several laxatives including **Metamucil** and **Fybogel**. You simply mix the powder into a glass of water or juice twice a day.

When you start using psyllium, start gradually, as it has a powerful laxative effect. Some people report a lot of flatulence (wind) when they start using it, so be warned. This settles down after a week but it's something to be aware of. Drink plenty of water as well.

What's the bottom line? Psyllium doesn't have the rich nutrient content of other time-honoured supplements like wheatgerm (packed with B vitamins) or lecithin (B vitamins and choline) or flaxseed (high in omega-3s and phyto-oestrogens). But as a cholesterol-lowerer, it's superior to oat bran. As a regularity aid, it wins over wheat bran. I like to think of it as a 'super supplement' – and definitely a worthy addition in the arsenal of dietary weapons to control your blood glucose levels.



Catherine Saxelby is an accredited dietitian and nutritionist and runs the Foodwatch Nutrition Centre. Her latest publication is *The Shopper's Guide to Light Foods for Weight Loss* (available as a PDF). For more information or to order a copy, visit www.foodwatch.com.au.

Low GI Recipes of the Month

American dietitian, **Johanna Burani** invites *GI News* readers to try recipes from her Italian kitchen (photographed by Sergio Burani).

Cream of carrot and celery soup

This simple, earthy soup tastes like it came right out of Mother Nature's very own soup kettle! It's wholesome, smooth and absolutely delicious. Make a double batch and freeze some. It will taste just as good the second time – if not even better.

Serves 4 (approx. 1½ cup each)

- 4 carrots (approx. 230 g/8 oz)
- 1 small head celery (approx. 700 g/1½ lb)
- 2 scant teaspoons caraway seeds
- 4 slices hearty rye bread
- 4 teaspoons extra virgin olive oil
- 4 teaspoons grated parmigiano reggiano

- Wash the vegetables with a vegetable brush. Cut off the ends and cut in half horizontally. Place vegetables in a large pot with 5 cups of lightly salted water. Cover and cook over moderate heat for 30 minutes or until vegetables are tender.
- Remove a quarter of the vegetables at a time and place in a blender. Process on high for a smooth puree, adding some of the cooking liquid if needed. Pour the puree into a medium sized pot. Continue processing all the vegetables until they are all pureed and in the pot. Add the remaining broth and keep warm on a low heat. Stir in the caraway seeds and mix well.
- Place a slice of bread on the bottom of each soup bowl. Ladle equal amounts of the hot soup into each bowl, over the bread. Drizzle a teaspoon of oil on each bowl of soup, sprinkle with the grated cheese and serve hot.

Per serve

Energy: 777 kJ/ 185 cal; Protein 5 g; Fat 7 g (includes 1 g saturated fat and 1 mg cholesterol); Carbs 28 g; Fibre 7 g

Each month, *GI News* readers can shop smart, cook smart, eat well and save money with **Diane Temple's Money Saving Meals**.

Melt-in-the-mouth beef goulash

The big cost savings (it worked out at AUD \$2.25 a serve or \$2.10 without the pasta) came with using more vegetables and less meat than many standard goulash recipes, and making the stock with a stock powder (I like Vegeta for its flavour). This recipe uses the Australian 20 mL tablespoon, so US and UK readers will need to add an extra teaspoon of paprika and vinegar). About 20 mins to prepare and 1 hour 50 mins to cook.

Makes 8 serves



- 1 tablespoon olive oil
- 900 g (2 lbs) chuck steak, visible fat trimmed and chopped into large chunks
- 3 onions, peeled, halved and sliced
- 1 tablespoon red wine vinegar
- 2 teaspoons brown sugar
- 1 red capsicum, seeded and diced
- 1 green capsicum, seeded and diced
- 1 tablespoon paprika

¼ cup tomato paste
3 cups beef or chicken stock
250 g (9 oz) flat mushrooms, wiped and sliced
2 tablespoons chopped parsley

- Heat the oil in a large saucepan and brown the meat on all sides in 2–3 batches for 2–3 minutes for each batch over medium heat. Don't overcrowd the pan or you'll end up stewing the meat not browning it. Lift the meat out and set aside.
- Sauté the onion for 10 minutes over low heat until it is very soft and starting to caramelize, adding a little stock if it sticks to the pan. Add the red wine vinegar and sugar and stir for 1 minute to deglaze the pan (dislodging any delicious bits stuck on the bottom).
- Return the meat to the pan with the red and green capsicum, paprika, tomato paste and stock. Stir well to combine, bring to the boil, then reduce the heat, cover, and simmer on a low heat for 1 hour. Stir in the mushrooms and continue simmering for 30 minutes, until the meat is almost falling-apart tender.
- Scatter over the parsley and serve with rice (a low GI one of course), or with pasta, mashed sweet potato, or sourdough or a grainy bread to mop up the juices.

Per serve (with pasta)

Energy: 1410 kJ/ 336 cal; Protein 29 g; Fat 9 g (includes 3 g saturated fat and 67 mg cholesterol); Carbs 34 g; Fibre 3 g

Busting Food Myths with Nicole Senior

Myth: Superfoods make you super healthy

Fact: Superfoods and supplements are over-hyped and super-expensive

The term 'superfood' was coined to describe foods with high levels of nutrients and phytochemicals that offer health benefits such as green leafy vegetables, berries and oily fish. However, food and supplement marketers have 'gone to town' with the whole concept and make inflated promises and exaggerated claims. While I used to love talking about superfoods, I now brace myself for the next ridiculous product claim. The first examples that come to mind are superfood supplements – not even foods at all. A cursory internet search yields claims of such enthusiasm and exaggeration as to qualify as fiction.

Take *acai berries*. According to the promo, they contain "every single essential nutrient required for humans", or are "the most perfect food on the planet". These claims are unsubstantiated and if taken literally imply that all you need to eat is these little berries and nothing else! However, unless you live in Brazil, the berries aren't for sale. What you buy instead is a highly touted, processed dietary supplement – a tablet or instant drink powder.

And *spirulina* (a dried blue-green algae extract) containing "rich vegetable protein 60–63%, 3–4 times higher than fish or beef". How is this relevant when you only take 5–10 g at a time and a

typical daily protein requirement is 50 g? Or, “1 kg of Spirulina is equivalent to 1000 kg of assorted vegetables”. How silly. The obvious omission from this comparison is the valuable dietary fibre component of vegetables. I wouldn’t recommend giving up eating your vegetables on the basis of this. Spirulina is also described as “the most complete food source in the world”, again suggesting a bit more than the suggested dose of 10–20 tablets a day may be required for this claim to be tested. And how about that dose – most people struggle to take their prescribed life saving medications or a single daily multi-vitamin, never mind 20 tablets!

As for superfruits such as *acai*, *goji* and *mangosteen*, while they sound tantalisingly exotic, many are unfeasibly expensive. Often they are grown in far flung places and have to be imported dried, juiced or as extracts for supplements. For instance, dried acai powder retails for around (AUD) \$40 per 100 g (3½ oz), a 500 g (1 lb 2 oz) packet of dried goji berries is around \$30, goji juice is \$40 per litre (about 1 quart), and dried mangosteen powder is \$25 per pack (making 2 litres). You have to question the “natural goodness” of such processed derivatives, and what about the carbon emissions produced during transport?

In Australia we have a wealth of traditional indigenous superfoods that have maintained the health of our Aboriginal people for thousands of years, yet it is a growing trend to buy processed superfoods from halfway around the world. And don’t get me started on the spin-off products that have spun-off most of their health benefits like milk chocolate coated goji berries (\$15 per 300 g pack).

Nutritional goodness does not have to cost the earth or be hard to get, as illustrated by the humble apple. According to a scientific review by Horticulture Australia, apples are one of the best and cheapest fruit sources of antioxidants around with one apple containing more antioxidants than half a punnet of blueberries or a cup of strawberries. Apples are grown within 45 minutes from my house and cost around \$4 a kilogram – you do the maths. And they are also low GI. You’re likely to have similar examples in your area.

The bottom line? Lots of foods are super and work best in combination rather than on their own. It is whole diets containing a variety of different foods – not single foods or supplements – that help prevent disease and promote health and wellness. If you’re into exotic superfoods and supplements and you have money to spare then go ahead but take the claims with a good dose of skepticism. For the rest of us, health and vitality can be ours without the hefty price tag. For good health and a healthy environment buy a variety of fresh, local, seasonal and minimally packaged produce – they’re super too.

For Nicole's heart-healthy eating advice, tips and recipes go to www.eattobeatcholesterol.com.au

Talking Turkey with Prof Trim

What drives us to drink?

Thirst Like hunger, thirst is a biological drive that prevents us from dehydrating, and ensures that the 70% of the human body that is made up of fluid is maintained. Any decrease of body fluid by more than 5% can cause major physiological problems – and ultimately even death. As a result, humans can't last for more than a couple of days under normal conditions without some fluid intake (where we can last for several months without food). Genuine thirst however, is satisfied by water. Yet many people go for years without drinking water. Obviously other drivers are involved in what drinks we choose.

Taste Again as with food, taste is a driver of consumption. As fat and sugar are nutrients designed to make us consume more (to get energy for survival), drinks that are loaded with either of these (e.g. dairy based, sugar sweetened), will usually be preferred over water. If taste is an issue modern technology can provide an answer – artificial sweeteners can add the taste, but no extra energy.

Mind alteration While there's usually little genuine thirst involved in the craving for alcohol, kava and other mind altering drinks, these do provide some fluid to the body. And while these seem to have no real biological (although they may have a psychological and/or sociological) purpose, mind altering fluids have been consumed in some form by most cultures throughout the ages. The need may be, as some drug experts claim, to alter our normal form of consciousness from time to time. Fortunately, most mind altering drugs (e.g. alcohol), although high in energy, are disposed of quickly in the body. If the accompanying diet is controlled, they should not be a problem for weight (although they could cause other problems).

Conditioning This is the big one which is often overlooked when trying to manage body weight. By opportunistically consuming a high energy, tasty drink when genuinely thirsty, the odds of craving this when thirsty the next time are increased. Drinking full strength soft drink after a dehydrating game of sport for example, increases the chances of that drink being preferred over water the next time thirst strikes. In this case (as often occurs in children who are given soft drink or fruit juice when thirsty, the only real option is to go 'cold turkey' and stick to water or diet drinks when genuine thirst strikes).

Arousal Drinks like tea or coffee or those with added caffeine can aid arousal and are therefore often preferred when a 'pick-me-up' is required. In their 'raw' state, tea and coffee add no calories to water, hence these can be useful for managing body weight. The addition of caffeine to high-energy drinks on the other hand is not so likely to have the same benign effect on body weight.

Advertising/marketing Finally, beverage choice is often based on the images associated with that drink. How else could a dirty black fluid with some coca stimulant make you feel young, sexy and as if you're having a great time when you drink it – even if you're not thirsty and feeling miserable at the time? Consciousness of advertising messages and what is being done to persuade you to pay money for, and pick up that climate-changing can of soft drink, instead of grabbing a glass of water from the tap, is about the only thing that can help keep the weight off.

Meanwhile ... all this speculation is making the Professor thirsty. Now where's that double scotch that makes men especially attractive with the soda, orange juice and a dash of genuine H2O?

Your Success Stories

'I was diagnosed with type 1 diabetes when I was 10 years old.' – Kate

'Having lived with type 1 diabetes since I was 10, and coeliac disease for the past few years, I have experienced first hand the difficulties of following a restricted diet ... which I suppose makes me rather different from most dietitians. In fact, being diagnosed with type 1 diabetes was the inspiration to study dietetics and then diabetes education, which has allowed me to have a career I love, helping others with diabetes. Having a real understanding of what they are going through is a huge benefit.

I don't remember feeling sick at all. I mainly remember feeling thirsty all the time. I was on holidays with my Dad and my strongest recollections of the holiday were struggling to walk back up the hill from the beach and running to the toilet all the time. My Mom took one look at me the moment I arrived home and took me straight to the doctor, and within hours I had been whizzed off to hospital and told that I had type 1 diabetes. A lot of people comment it must have been difficult to be diagnosed so young, but I think it is much harder on your parents when you are diagnosed as a child, as they can understand the long term implications.

Like most kids growing up with diabetes, food and birthday parties, especially the cake, seem to be what we remember most! One year my Mom created a sugar-free pavlova with liquid sugarine – it turned out like polystyrene! But at least it was a cake.

These days I basically eat a lot of vegetables, [legumes](#), nuts and seeds and use [quinoa](#) and [brown rice](#) as my main grain foods. I had been vegetarian since my teenage years and a few years ago I adopted a vegan diet, for a number of reasons, but particularly health and environmental reasons. I really enjoy vegetarian foods and never really liked much meat so this isn't difficult but combining it with a gluten-free diet that is also suited to my diabetes can be a challenge at times, particularly if eating out, which I don't do a lot of. I don't make a good dinner guest!

Unfortunately most gluten-free foods tend to be high GI which makes managing blood glucose levels more difficult but there are also plenty of lower GI options and building my diet around these has really helped. This is one of the reasons I was so keen to write *Low GI Gluten-free Living* – to help other people with coeliac disease understand the benefits of choosing low GI foods (whether or not they have diabetes) and to give them some practical ideas of how to do this.

When people hear that I have type 1 diabetes, the first comment is usually “so you have to give yourself injections – that must be hard”. But anyone with type 1 diabetes will tell you this is the easy bit! For us, insulin is the difference between life and death, but it doesn't “cure” the disease and alone it doesn't control our blood glucose levels. Living with type 1 diabetes means

constantly juggling insulin, food, exercise and other factors such as stress and illness, all of which affect blood glucose levels. For me, understanding GI and how carbs really do affect blood glucose levels has been a great help in managing my diabetes.’

Kate Marsh is an Advanced Accredited Practising Dietitian and Credentialed Diabetes Educator. She has just completed her PhD at the University of Sydney.

GI Symbol News with Alan Barclay

The real deal on sugar and sweeteners

Feel guilty every time you enjoy something sweet? Do you think having diabetes equals no sugar? You are not alone. However, many scientific studies over the past 20 years clearly show that a moderate amount of sugar (e.g. 30–50 grams or 6–10 teaspoons a day) in diets for people with diabetes does not adversely affect blood glucose levels nor lead to unwanted weight gain. Keep in mind, however, that this moderate amount includes all sources of refined sugar you consume – white, brown, raw, treacle, golden syrup, soft drinks, desserts, cookies, breakfast cereals or a teaspoon of sugar added to a cup of tea or coffee.

The sugar veto for people with diabetes has helped create a huge market for alternative sweeteners from aspartame (Equal/Nutrasweet) to stevia. In the first of a three-part series, Dr Alan Barclay checks out the pros and cons of the tabletop sweeteners you will find in your supermarket (including sweeteners primarily used to sweeten low-calorie commercial products). This month he looks at nutritive sweeteners.

Nutritive sweeteners are simply those that provide some calories (kilojoules) and, as the name suggests, nutrients. Highly refined sweeteners like white sugar (sucrose or fructose) provide calories and carbohydrate but little else. Less refined sweeteners like raw sugar, Logicane™, honey, golden syrup, pure (100%) maple syrup and agave also provide small amounts of calcium, potassium and magnesium. These sweeteners provide around 4 grams of carbohydrate and 14 calories (60 kJ) per level teaspoon. Remember, small amounts do add up – particularly when included in soft drinks (6–8 teaspoons of sucrose per cup/250 mL/9 fl oz) and cordials (5–6 teaspoons of sucrose per cup).

GI values range from a low of 19 for fructose to a high of 100 for glucose. While the GI of a typical blended honey is similar to that of white sugar, some of the Australian pure native floral honeys like yellow box, red gum and iron bark honey do have low GI values (35, 46 and 48, respectively), but they are not always available. The new sugar Logicane™ has a much lower GI than regular white sugar (50), and most of the other nutritive sweeteners with the exception of fructose.

Table sugar or sucrose (white, raw or brown) is the second sweetest after fructose, is the best value for money and is the easiest to use in cooking. And because it generally has a lower GI than the refined flour, it can actually lower the GI of recipes for baking, especially if you choose

Logicane™. However, it is much more expensive.

The sugar alcohols, such as sorbitol, mannitol and maltitol, are generally not as sweet as table sugar, provide fewer calories and have less impact on blood glucose levels. To overcome their lack of sweetness, food manufacturers usually combine them with non-nutritive sweeteners to keep the calorie count down and minimise the effect on blood glucose levels. However, most have a laxative effect and may cause wind and diarrhoea if consumed in large quantities.

Used in sensible quantities, fructose certainly rivals table sugar as a good all-round sweetener. It stands out from the crowd, being sweeter than sugar, providing the same number of calories, but having only one-third the GI. So you can use less fructose to achieve the same level of sweetness, and as a result, consume fewer calories and experience a much smaller rise in your blood glucose levels. Its main drawback is cost.

There is some evidence that moderate (less than 50 g, or 10 teaspoons, per day) to high (100 g, or 20 teaspoons, or more, per day) consumption of fructose can raise triglyceride levels and increase the risk of weight gain, but most people do not normally eat anywhere near this amount – even those living in the United States.

Click for a [complete guide](#) to nutritive and non-nutritive sweeteners along with the brands that carry the GI Symbol.

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