

GI News—January 2009



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If you are making New Year resolutions, focus on your health not weight loss. Don't severely restrict food intake, don't skip breakfast, don't skip meals, don't drop whole food groups, don't follow fad diets – that's all asking for trouble. Instead, adopt some simple lifestyle manoeuvres to maximise your muscle mass and minimise your body fat such as eating more fruit and vegetables, opting for lean protein and making sure your meals come with the good fats and smart carbs. And if you do need a bit of belt tightening, you are not alone says Prof Barry Popkin in his new and immensely readable book, *The World Is Fat*, where he looks at the fads, trends and policies that are fattening the human race. In Food for Thought he suggests that perhaps nothing has contributed more to our weight gain than the clash between our drinking habits and our biology.

Good eating, good health and good reading.

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Food for Thought

We are what we drink

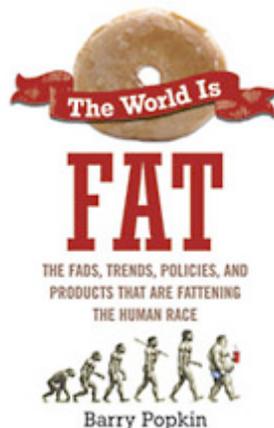
Today, the planet's 1.6 billion overweight people by far outnumber the 700 million who are under nourished. This would have seemed ludicrous just 50 years ago, when hunger was the world's most pressing nutritional problem says Prof Barry Popkin. In *The World Is Fat* (Avery) he identifies four trends that have emerged over the past 60 years that have significantly changed the way we eat: snacking on energy-dense foods between meals, weekend eating, eating supersized portions and eating away from home. In the following extract, he explains why drinking with abandon an ever-increasing range of high calorie (kilojoule) sodas, juices, sweetened teas, lattes and energy drinks aggressively marketed by food and beverage companies is clashing with millions of years of human evolution.

‘Our species, *Homo sapiens*, appeared between 200,000 and 100,000 years ago. But it’s likely that until wine and beer were invented – about 11,000 years ago – we didn’t drink anything other than water or breast milk. Our hunter-gatherer ancestors drank breast milk for the first few years of their lives, and after that only water – the basis for life for all mammals.

But during the last century we’ve seen huge changes in the beverages consumed throughout the world – changes our biology isn’t prepared for. Imagine what would have happened to a hunter-gatherer if his or her hunger were satiated by drinking water. He or she wouldn’t feel the need to forage for food, and wouldn’t have stored essential body fat for times of famine. It’s obvious that if water consumption alleviated our hunger pangs, we, as a species, might not have survived. Another way of looking at this is that those who survived didn’t cut their food intake after drinking. And for us today the implications are clear – we drink a lot of calories and we don’t cut our food intake as a result. Recent studies confirm this. We can have a 16 oz (450 ml) bottle of Coke or three beers before dinner – and yet not eat any less because of it.

The relatively recent addition of caloric beverages to our diet as you can see from the illustration provides a sense of the role beverages play in the obesity epidemic. Compared to the millions of years during which we evolved into *Homo sapiens*, the span of time in which we have been consuming caloric beverages has been very short. Our genes take a long time to respond to such changes – we are living in a rapidly changing world but with genes adapted to an earlier period.’

– Extract from *The World is Fat* published with permission of Penguin Group (USA) Inc.



News Briefs

Healthy curves

Studies are showing that when it comes to blood glucose, it’s the roller-coaster ride (the sharp glucose spike and the degree of blood glucose fluctuation) after eating that’s the problem as it can damage the body, contributing to the development of chronic diseases, particularly atherosclerosis.

The American Diabetes Association still emphasises the amount of carbohydrate to optimise glucose control and slow the development of complications. However, the key finding of [this latest study](#) backs up the growing body of evidence suggesting that if a reduction in postprandial glycemia (high glucose after eating) is to be part of the strategy for preventing and managing diabetes and cardiovascular disease, the GI (or carb quality) is just as relevant as carb quantity.

Prof Jennie Brand-Miller's GI team at Sydney University's Human Nutrition Unit drew on their database of 1126 foods tested since 1995 to explore the association between a food's GI and the shape of the curve in healthy young people (average age 24, BMI 22). The study is a first in a couple of ways – to attempt to systematically characterise the relation between a food's GI and other attributes of post-meal blood glucose and to explore differences in the shape of the curve within and between food categories.

'From the standpoint of defining what's "normal" postprandial glycemia, our study is unique,' says Prof Jennie Brand-Miller. 'Our results suggest that the "normal" response depends on the choice of carbohydrate food. Our study's key take-home messages are that:

- The GI reliably predicts the glycemic response, and the overall **shape** of the post-meal glycemia curve is similar for high, medium and low GI foods. Since they say that a picture is worth 100 words, check out the curves (incremental blood glucose profiles if you want to be technical) for high medium and low GI white breads, breakfast cereals, potatoes and pasta, soft drinks, wholegrain breads, rices, cereal and protein bars, fruit and juice.
- To control high blood glucose after meals, carb quality (or its GI) and carb quantity both count. So the general message is say "less" and say "low GI" with carb-rich foods.
- The simple "eat more wholegrains" health message needs fine tuning. Just telling people to "eat wholegrains" can encourage them to eat carbs with a high GI on par with white bread (GI 70). So it's not an ideal message for helping people manage blood glucose spikes. It's the low GI wholegrains with their gentler curves they need.'

Shedding pounds without pangs

Eating 'feel full' foods that satisfy appetite faster and keep you feeling fuller for longer, puts you on the path to shedding pounds effortlessly without pangs. Research shows that when we consume foods (not beverages) that our bodies really notice we are eating, our gut and intestines (see below) send the brain the vital 'I'm full' signals. There's quite a range of 'feel full' foods to choose from including:

- Foods that we have to chew a lot like lean meat, pearl barley, muesli, very grainy breads, apples and carrots.
- Protein-rich foods (lean meat, fish, chickpeas, nuts) that encourage our stomach and small intestine to produce hormones that send 'I'm full' signals to the brain. There's

added value with these too – they make you hotter after eating, which uses up more energy.

- Slow digesting low GI carbs can also increase the production of some ‘I’m full’ hormones and help keep our blood glucose steady after eating. In a recent study from the University of Sydney’s Human Nutrition Unit in the [*European Journal of Clinical Nutrition*](#), lead researcher Rebecca Reynolds reports that ‘eating lower GI meals throughout the day produced significantly lower glucose and insulin concentrations along with higher concentrations of the satiety (fullness) hormone, cholecystokinin (CCK), compared with high GI meals’.
- Foods that have lots of fibre and water (high volume foods) deliver the ‘I’m full’ feeling. This is because volume, especially ‘sticky’ volume, like porridge means that food really touches the gut walls and leaves the brain in no doubt that it’s there. They also stick around the gut longer clinging to the walls.

So, make the most of ‘feel full’ fruit, vegetables, eggs, lean meat and chicken, fish, muesli/porridge made with traditional chewy (not instant) oats, dense grainy bread (look for the GI Symbol in Australia and NZ), pasta (especially whole wheat or wholemeal), basmati rice and other lower GI rices such as Doongara Clever rice and Moolgiri medium-grain rice, (especially whole wheat or brown basmati, but not quick cooking versions) and low fat dairy foods like milk and yoghurt. What about potatoes? If you are a fan, cut back on quantity and choose smaller tubers of lower GI varieties such as Nicola or Almera – not overcooked, or cooked and cooled e.g. in a potato salad. Or replace them with other feel full starchy foods like pearl barley or bulghur for a change.

Feel full foods are perfect for slim budgets too. You’ll find you can eat better for less when you cut back on modern refined foods. The body just doesn’t seem to pick up so well on the presence of these foods that are high in fat (the least filling macronutrient) and quick digesting carbs, which makes it hard to know when to stop eating. When these processed foods are around en masse encouraging us to eat more at each meal and eat more often, it’s hard for the body to regulate its weight.

GI Group: ‘How we make decisions to start and stop eating is a complex process. Your gut and brain “communicate” to determine when you are full, with your brain sending out the all important Stop Eating signal with the help of information it receives from hormones produced by your gut,’ says researcher Rebecca Reynolds. ‘Appetite is orchestrated by a part of your brain called the hypothalamus. It receives signals from the gut via the blood and spinal cord. Within about 15–30 minutes after you start eating, satiety (fullness) signals are transmitted from your small intestines. These act as a sedative on the gastrointestinal tract, slowing down the passage of food and creating a sense of fullness. However (there’s always one of those), keep in mind that psychological factors such as boredom, unhappiness, temptation etc. also influence your food intake and can overpower signals from the hypothalamus.’

Low GI diets better than high cereal-fibre diets for managing diabetes

A healthy, low GI diet achieved a greater improvement in blood glucose and cholesterol levels

than a healthy, high cereal-fibre diet in people with type 2 diabetes report Canadian researchers in the prestigious [Journal of the American Medical Association](#). Simply eating more dietary fibre is not enough to improve diabetes management is one of the study's key findings.

Two hundred and ten overweight Canadian volunteers with type 2 diabetes (average age 60 years) who were being treated with anti-hyperglycemic medications were randomly allocated to go on to either a low GI diet (average GI 44) or a high cereal-fiber diet (average GI 61) for 6 months. The moderate carbohydrate (200 grams a day), moderate fat (60 grams a day), moderate protein (40 grams a day) diets were matched for kilojoule (calorie) intake and changes in blood glucose and other measures of diabetes management were recorded at regular intervals. (The low GI diet emphasised foods like pumpernickel bread, bulgur-and-flax breakfast cereal, and peas, lentils, and nuts; the high-cereal-fibre diet emphasized whole-grain breads and breakfast cereals, brown rice, and avoidance of starchy foods.)

At the end of the study, those on the low GI diet showed greater improvements in average blood glucose levels and good cholesterol (HCL). Glycated haemoglobin or HbA1c decreased by 0.5% points on the low GI diet compared with only 0.2% points on the high cereal-fibre, higher GI diet. HDL levels rose on the low GI diet but fell on the standard high cereal-fibre diet. 'Improvements like these in blood glucose control would reduce the risk of common complications of type 2 diabetes like eye and kidney disease by up to 12%, and the risk of heart disease by up to 20%,' says Dr Alan Barclay, Chief Scientific Officer of the GI Symbol Program.

No need to drop dairy foods

Dairy foods are often among the first to be struck off the shopping list by dieters, especially women. A recent study funded by the National Dairy Council and published in [Nutrition and Metabolism](#) didn't find eating the recommended three servings of dairy food a day (1 cup milk or 1 cup yoghurt or a 42 g piece of hard cheese) made any difference when it came to helping people maintain weight loss, but it did show that they were able to consume more calories without gaining weight compared with people who consumed less than one dairy serving a day.

Australian Better Health 'Measure Up' initiative

Belly fat has been linked to an increased risk of heart disease and diabetes and now to early death according to a study in the [New England Journal of Medicine](#). Researchers following some 360,000 Europeans in one of the largest and longest health studies in the world found that people with the most belly fat had about double the risk of dying prematurely compared with people with the least belly fat. Death risk increased with waist circumference, whether the participants were overweight or not.

The Australian Government is supplying tape measures as part of its '[Measure Up](#)' campaign to drive home to Australians the scary facts about flab. For most Australians a waist measure of more than 94 cm (37.6 in) for men and 80 (32 in) for women means a risk of developing a lifestyle-related chronic disease such as diabetes or cardiovascular problems. The tape moves into the red (yes, they are colour coded) if it goes over 102 cm (40.8 in) for men or 88 cm (35.2 in) for women, indicating increased risk of chronic diseases like type 2 diabetes and heart disease.

Being overweight causes excess fat around your waist to coat your organs. This fat is called visceral or intra-abdominal fat. Subcutaneous fat is the fat right under the skin. Both types play a role in contributing to health problems, however intra-abdominal fat contributes more. It is not yet clear exactly what links intra-abdominal fat with chronic disease, but what is clear is that even a small deposit of this fat increases the risk that you will have serious health problems. So Measure Up, get active, eat better and reduce your risk.

The Flexitarian Diet

Dawn Jackson Blatner, RD, LDN

This is a flexible vegetarian nutrition plan that minimises meat without excluding it. We like it because there are no rules or restrictions. You just eat more plants during your regular meals. There's a 5-week eating plan with 100 recipes (breakfast, lunch, dinner, snacks and desserts) including plenty of quick and easy ways with beans (canned of course). Love her motto, too: 'Be good to the body you have and it will be good to you.' Each recipe makes **ONE** serving. So if there's two of you, double the quantities. It's published by McGraw-Hill and available in bookshops or from Amazon.

Low GI Recipes of the Month

Veronica Cuskelly is our guest chef this month and shares one of the recipes from her new book *Heart Food*. Enjoy this as a light meal or serve it up with fish fillets or chargrilled or barbecued prawn (shrimp) skewers and rocket and tomato salad for a more substantial meal.

Lemon spaghetti with walnuts

This dish would also be delicious made with hazelnuts and hazelnut oil.

Makes 4 serves (Each serving contains 1 serve of vegetables)

160 g /5½ oz wholemeal spaghetti
1 bunch (160 g/5½ oz) asparagus, sliced
1 cup frozen peas
3 teaspoons walnut oil
1–2 tablespoons lemon juice
1 clove garlic, crushed
1 tablespoon chopped dill
½ cup (60 g/2¼ oz) walnut pieces, toasted
1 medium red chilli, sliced thinly

- Cook the spaghetti according to the directions on the packet, without adding salt or oil. Drain and set aside.
- Meanwhile, place the bottom ends of the asparagus in a saucepan, cover with water and bring to the boil over a medium heat. Add the asparagus tips and cook, uncovered, until almost tender, about 2–3 minutes. Watch the time as the thickness of asparagus spears varies. Add the peas and cook until they are bright green and cooked – just a few

minutes.

- To make the dressing, whisk the oil, lemon juice and garlic in a small bowl.
- Drain the asparagus and peas, return to the saucepan with the spaghetti and add the dressing and dill. Mix together well and serve sprinkled with the walnuts and chilli.

Per serve

Energy: 1225 kJ/ 293 cal; Protein 10 g; Fat 15 g (includes 1 g saturated fat); Carbs 29 g;
Fibre 8 g

Low GI fare from Johanna's kitchen: In *GI News* American dietitian, Johanna Burani shares her recipes photographed by husband Sergio.

Little cabbage 'suitcases' (Valigini)

'Valigini' means 'little suitcases' in Italian. That's what my mother-in-law called this recipe because of the way the cabbage leaves enclose the meat filling. You may be surprised to find ground nutmeg mixed in with chopped meat but wait until you taste this combination – you'll love it! In northern Italy, nutmeg partners well with a variety of ingredients. Instead of steamed cabbage leaves, try putting this mixture into the cavity of steamed zucchini, sliced lengthwise with pulp removed.

Makes 12, serves 6 (2 valigini per person)



12 savoy cabbage leaves (carefully removed from base of cabbage)

1 lb (450 g) 90% lean chopped meat

7 large sprigs parsley, leaves only

1 large celery stalk, thinly sliced

1 tablespoon extra virgin olive oil

1 clove garlic, minced

½ teaspoon salt

1/8 teaspoon pepper

1/8 teaspoon nutmeg

½ cup plain bread crumbs

½ cup grated parmigiano reggiano cheese

- Wash and steam the cabbage leaves for 2–3 minutes or until they appear wilted. Set aside.
- Place the chopped meat in the bowl of a food processor and pulse for 15 seconds (25 pulses). Add the parsley and celery and process for another 15 seconds.
- In a large, heavy skillet heat the oil and garlic, add the meat mixture (press with fork to break up mixture into very small crumbled pieces) and sauté for 5 minutes on medium-high heat taking care it doesn't burn. Add in the spices and mix well.
- Return the meat mixture to a clean food processor bowl. Whiz for 1 minute adding the breadcrumbs and grated cheese through the food tube as it is processing.
- Line up the cooked cabbage leaves on the counter, place a rounded tablespoon of the meat mixture (about 1¼ oz/35 g) on the lower half of each leaf and gently roll up, taking care to close in sides as you roll. Secure with a toothpick.
- Add ½–1 cup homemade tomato sauce to a large Dutch oven or sturdy casserole and heat gently. Arrange the pieces to cover the bottom. Cover and simmer for 15 minutes, turning each piece over after 7–8 minutes. Serve hot.

Per serve (2 pieces)

Energy: 1268 kJ/ 302 cal; Protein 25 g; Fat 17 g (includes 6 g saturated fat and 67 mg cholesterol); Carbs 12 g; Fibre 3 g

Visit Johanna's website: www.eatgoodcarbs.com.

Busting Food Myths with Nicole Senior

Myth: Low-carb beer is healthier

Fact: Low-carb beer is a classic case of wishful thinking, or perhaps more fittingly an example of ignoring the elephant (or the elephant beer*) in the room. Yet, low-carb beers were the 'it' beer in 2008. In fact, only this morning I received a media release from an Australian brewing company claiming they have made the first no-carb beer in the land, and the consumer demand for such a product was too hard to ignore. How could so many people have deluded themselves into thinking a beer with less carbs is healthier WHEN IT'S THE ALCOHOL CONTENT THAT'S THE PROBLEM! Please excuse my capitals but this subject rather inflames my passion for the whole truth on matters of food and drink.

The first rather obvious thing to point out is beer contains very low levels of carbohydrates (sugars) in the first place. The average lager-style beer contains only 2% carbohydrate by volume, or 7.5 g in a 375 mL can. It's good to remind ourselves that carbohydrates are not especially fattening either, although sugars in drinks are not a nutritious source. I like beer, and I recently brewed some myself as a treat with the two main men in my life: my husband and my dad. I learned the sugars added to the initial mix from malted grains are gobbled up by the brewer's yeast which then converts them into alcohol and bubbles of carbon dioxide. Beer is not a high-carb drink; this label is well-earned by soft drinks which contain 40 g (8 teaspoons) of sugar per 375 mL can.

The real nail in the coffin of the creative marketing behind low-carb beer is they contain the same level of alcohol as regular beer, and the alcohol is the kilojoule (calorie) culprit contributing 75% of the total energy content. Alcohol contains 29 kJ per gram; nearly twice that of carbohydrates at 16 kJ per gram. If you really want to curb the kilojoules, then drinking low alcohol, or 'light' beer makes much more sense.

So what's really going on behind the low-carb beer phenomenon? I'm sure you'll have your own ideas, but I go back to my original assertion that it's all just wishful thinking. As hedonistic souls prone to excess (especially during the holidays), perhaps low-carb beers give us permission to drink more? Savvy marketers are just good at finding the soft underbelly of human nature and cashing in on it.

It's blindingly obvious really, but if you're interested in a 'six pack' stomach rather than a beer barrel body, drink less beer.

*Elephant beer is extra strong with high alcohol content, brewed by the Carlsberg Company

If you'd like great ideas for simple, heart-friendly food made with the goodness of healthy fats and oils with less salt, try *Heart Food* or *Eat to Beat Cholesterol*. Both titles available from www.greatideas.net.au.

Healthy Kids with Susie Burrell

Lifestyle Lesson 5: Save your pennies – cool, clear water is the best drink for kids

Supermarket shelves and refrigerated cabinets are literally groaning with beverages targeting young people these days, but save your pennies and invest in your kids' health because water is the default setting when it comes to quenching thirst and should always be the number one drink of choice for children (and grownups). In fact, recent recommendations from childhood obesity experts writing in the *Journal of the American Dietetic Association* suggest that to help prevent obesity, sweetened beverages (fruit drinks, cordials, soft drinks, flavoured mineral water and the latest in the list of colourful tempters, vitamin water) should be limited to just twice each week. They are 'sometimes' drinks not everyday options.

Children don't need any of these to be healthy – in fact gulping down these beverages they can make them picky about eating more nutritious foods at mealtimes and contribute to tooth decay. This is because sweetened drinks contain what nutritionists refer to as 'discretionary' calories, meaning they offer little in the way of nutrition and are easily over consumed, especially since they are frequently sold in super sized portions. Some sugar sweetened beverages also contain preservative 211 (sodium benzoate) as well as a number of artificial colours (some of which have actually been banned from use in some European countries).

What about 100% unsweetened fruit juice? Well, yes it does have some vitamin C and phytochemicals, but for the most part juice just contributes to excess calories and tooth decay.

It's much better to give kids orange or apple segments. To quench thirst, stick with the one that's free and that nature provides – cool, clear, water. Try keeping ice cold water in the fridge or a filter water jug on the bench, always encourage your children to carry their water bottle with them (one that they can refill) and, most importantly, set a good example and drink water yourself.

Susie Burrell APD is a specialist Weight Management Dietitian at The Children's Hospital at Westmead. In her private practice, she balances her clinical work with writing for print and electronic media. For more information check out: www.susieburrell.com.au

Move It & Lose It with Prof Trim

Losing weight. Let us count the ways ...

If you're looking to lose weight, there's no shortage of 'experts' around to help. But it's usually only weight off the wallet they take. Not off the body. So how do you know who to believe? Well, a recent publication which backed up Government guidelines on this, have listed the ways – and how successful each is. Here's a summary:

Herbal products: These are bought 'over-the-counter' and include a wide range of products ranging from seaweed to horseradish. There's no evidence that any work without a diet and exercise program though. So save your money.

Alternative treatments: Weight loss claims are made for everything from acupuncture to hypnosis to body wrapping. But again, there's no real proof that any of these work. Hypnosis may have some slight impact on changing food intake in someone who is able to be hypnotised, but the effect is hardly worth it.

Do-It-Yourself (DIY) diets: It's difficult to gauge this one because something obviously worked for many people (otherwise we would all be fat). However, while any diet will work over the short term (by decreasing food intake) very few can be sustained over the long term. It's better to make a lifetime commitment to eating right than waste time and effort on special diets.

Commercial diet-based weight loss programs: There are two or three big ones of these depending on the country – Weight Watchers being the biggest. They work best as a support group (and hence usually better for women) – but be prepared to continue paying. The success rate is not clear because data are unpublished, but WW (one of the few that do publish results) claim a success rate of around 20% over 1 year. (Men seem to do much better according to published data on GutBusters – now Professor Trims).

Exercise-based programs: These include fitness centres and personal trainers as well as do it yourself ways of getting fit. The first thing to say about exercise is that it doesn't strip the weight off as quickly as dieting. The second is that it does it better over the long term – so it should be a part of any program.

Counselling: You can get this from a good doctor, dietitian, psychologist or exercise physiologist (or now a combination of three through your GP). Look for the ones who specialise in weight control and see this person only as helping you – not doing it for you.

Pre-Packaged meals: These are whole meals packaged and frozen for re-heating. In general, they provide low calorie, healthy meals and (provided you don't add a profiterole and ice-cream dessert) can help reduce food intake.

Meal Replacements: These can be used once or twice a day (rarely three times) instead of meals. Hence they only work if they delay hunger, and while there have been some dodgy versions around for years, there are now some very effective ones. They can be used for up to 3 meals a day. But experienced guidance is recommended. The recognition of the value of these by obesity groups has now also meant a proliferation of products on the market. Look for those with good professional support.

Medication: There are a couple of drugs available from the doctor that can help add to the benefits of a lifestyle program. You'll need an experienced doctor to advise you on what is best. Also, don't expect these to work without a change in lifestyle.

Surgery: It used to be the last resort, but modern surgical techniques (particularly laproscopic banding) have now made it one of the most effective weight loss techniques available – provided it is followed up, again with the proper lifestyle change and with a team of experts including a psychologist, dietitian and exercise specialist.

Lifestyle modification: No matter what you do it comes down to this. Nothing will work without some form of lifestyle change, so why not do it all in one go. Programs like Professor Trim's for Men can help you do this.

Curly Questions

I have been diagnosed with insulin resistance. My dietitian told me that it is important to eat within one hour of waking otherwise the body starts to use muscle instead of fat.

Here's what Dr Joanna McMillan Price says about breakfast and the body using muscle instead of fat. 'The body only starts to break down muscle for fuel when stored carbohydrates (in the form of glycogen) are low and immediate energy is needed faster than body fat can be broken down. This isn't going to happen within one hour of waking, unless you are exercising on low carb stores. However we do agree wholeheartedly that breakfast is a good idea, and that the meal you choose should be low GI as this impacts on your whole day. Set yourself up with a low GI wholesome breakfast and you will eat less for the rest of the day, avoid a mid-morning slump in blood sugars that can lead to a sweet craving or pick-me-up and you need to produce less insulin to process the meal. This will all help you to burn body fat and reduce your insulin resistance. Finally the most important things you can do to avoid breaking down muscle is eat carbs, just the right ones (ie low GI) and exercise – if you don't use muscle you lose it.'

I am 53 year and have always been healthy and active (aerobics and all). At my last physical I was told my blood glucose was 108 – pre-diabetic. I completely changed my diet – read about the GI and only have dessert once a week now. I was eating a lot of sugar! Is it realistic to think I can reduce this number through my diet?

‘I’d recommend you give it a go,’ says Kaye Foster-Powell. ‘You have nothing to lose after all and there’s a chance (about one in three) that your blood glucose level could return to normal. Maintain your aerobic activity if you can and incorporate some strengthening/resistance exercise about three times a week to enhance your insulin sensitivity. Put your all into eating a low GI diet, but keep in mind that this doesn't mean cutting out sugar. Fruit and low fat dairy-based desserts could be a healthy inclusion.’

Email your curly question about carbs, the GI and blood glucose to:
gicurlyquestions@gmail.com

Your Success Stories

‘Eating low GI has helped me maintain a reasonable blood glucose level.’ – Peter

‘I am a health professional and worked shifts until July of this year when I turned 50. Over the past 18 months I was diagnosed as being diabetic and my controlled hypertension was becoming increasingly uncontrolled. Being horizontally displaced (around the abdomen) made future health prospects look bleak. I had yo-yoed on different diets such as the Atkins Diet where I lost weight but felt ill and irritable. (How can less than 40 g of carbs be good for you when your brain requires more to function adequately?) I tried other carb-cutting diets but felt continuously hungry and tended to snack. A low GI diet has helped me maintain a reasonable blood glucose level. HbA1c was 7.9 and in the past six months has been 6.8. Another benefit is better sleep – I don’t have to get up 5–7 times a night to pee!

I am still fighting the BMI thing but have realised that what I put on over 20 years won’t come off overnight so I am aiming for 20 months to reach an acceptable weight. I now read labels and am eating more legumes than red meat which I restrict to about once a week. So a low GI diet has improved my health prospects and has motivated me to carry on this scientific evidence based pathway. Thanks low GI.’

GI Symbol News with Alan Barclay

Sustainable energy

Until recently, it was generally believed that high GI foods cause blood glucose levels to rise rapidly to relatively high levels, before dropping back to fasting levels, in an equally short period of time, providing a quick ‘spike’ of energy. Low GI foods, on the other hand, were thought to cause blood glucose levels to rise gradually over a relatively longer period of time, reaching a modest peak, before gently returning to baseline over a longer period.

The ‘Healthy Curves’ story in this issue of *GI News* not only suggests that the normal response depends on what carbohydrate food has been consumed, but that the notion that a low GI food has a uniquely long tail or extended glucose profile is not correct. Although a slowly digested starch or sugar may represent a slow-release form of energy, this does not automatically imply that a low GI food produces a sustained glucose response, as their metabolic energy can be released through alternative energy pathways.

What Brand-Miller’s study shows is that blood glucose levels tend to return to the baseline sooner after consuming sugary foods such as soft drinks and juices, regardless of their GI. These findings can be explained by the fact that commonly consumed sugars such as sucrose, lactose and fructose – regardless of their source – contribute fewer glucose molecules than the same weight of starch. Fifty grams of sucrose, for example, contains only 25 g of glucose versus 50 g of glucose in starch.

Does that mean you can still obtain sustained energy from lower GI sugars?

We have to get a bit technical here, so please forgive us. While lower GI sugars may have a negligible affect on blood glucose levels, the 25 g of fructose or galactose from a 50 g serve of sucrose or lactose still provide the body’s cells, tissues and organs with energy it can metabolise. After reaching the liver, fructose is rapidly removed from the blood stream, phosphorylated, and enters the glycolytic pathway, usually ending up as pyruvate and adenosine triphosphate (ATP), our body’s main energy ‘currency’. Similarly, galactose is extracted from the blood and converted to glucose in the liver, and again converted to pyruvate and ATP, just like dietary glucose. Under normal aerobic conditions, pyruvate is converted via the citric acid cycle to ATP, producing more energy. Therefore, ingestion of low GI sugars such as sucrose or lactose may have a negligible affect on blood glucose levels, but this does not mean they do not still help provide our body’s cells, tissue and organs with a sustainable source of energy. And there is considerable evidence linking the consumption of meals with a low GI to sustained physical and improved mental performance in humans. Please contact me for the references to these studies if you wish. Email: alan@gisymbol.com

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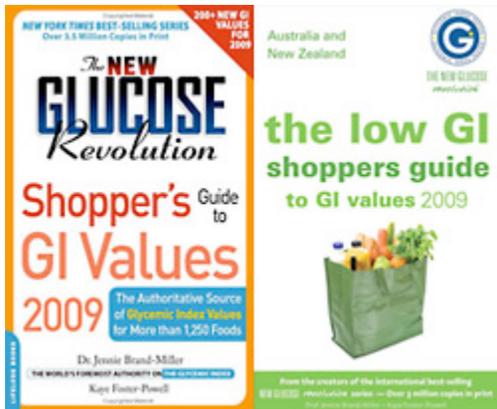
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The Latest GI Values with Fiona Atkinson

Shopper's Guide to GI Values 2009

After the feast of new GI values over the past couple of months, we have a bit of a famine for January. The good news, however, is the *The New Glucose Revolution Shopper's Guide to GI Values 2009* is now available with the values for over 1000 foods and beverages and there are special editions for Australia and New Zealand and for the US and Canada. These handy pocket guides are available from bookshops and the US/Canada edition from Amazon. We would love to be telling our UK readers that we have a special edition for them too, but sadly we don't have a UK publisher for this pocket book.



Where can I get more information on GI testing?

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