

## GI News–August 2009



- Why not enough sleep is not OK
- Artificial sweeteners linked to diabetes
- How to cook a carrot
- Are chia seeds too good to be true?
- Are energy drinks all they are cracked up to be?

We are often asked about translated editions of *GI News*. Sadly we don't have the budget to fund translations every month. We'd be interested in your thoughts (and help) on this, and happy to talk to any experienced translators who would like to take this on as a pro bono project. If you are interested, please send us an [email](#).

Good eating, good health and good reading.

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### Food for Thought

#### **Not sleeping enough and not sleeping well is not OK**

‘Most of us don’t get enough sleep and this promotes weight gain and increases our risk of developing diabetes and heart disease,’ says dietitian and exercise physiologist Caitlin Reid in her new book, *Health & the City*. ‘Inadequate sleep also increases daytime sleepiness and our susceptibility to injury along with compromising decision making and concentration,’ she says. Chronic lack of sleep affects our health, our work and our safety. So next time a colleague boasts that they ‘get by on four or five hours sleep a night,’ don’t envy them. Pity them. And maybe suggest they get help.

US researchers analysing data of 18,000 adults in the National Health and Nutrition Examination Survey found a correlation between BMI and hours of sleep. Those who got less than four hours of sleep a night, were 73% more likely to be obese than those who slept seven to nine hours. In a separate study of 924 adults, researchers determined that two hours less sleep per week amounted to an increase in BMI of 10. They’re still at a loss to explain how sleep helps our weight, but there are lots of theories. It may be related to lower production of the hormone leptin (a natural appetite suppressant) with sleep deprivation. In the meantime, it’s a good reason to make sure you get enough shut-eye.

**Chronic sleep deprivation** has been linked to high blood pressure, heart disease and diabetes. Short sleepers (i.e. people getting less than six hours sleep a night), are prone to abnormal blood glucose levels, possibly putting them at risk for diabetes, says Lisa Rafalson of the University at Buffalo in New York, at the Conference on Cardiovascular Disease Epidemiology and Prevention in Florida in March 2009. Using data from a large six-year study, Rafalson and colleagues identified 91 people whose blood glucose rose during the study period and compared them to 273 people whose glucose levels remained in the normal range. They found the short sleepers were far more likely to develop impaired fasting glucose than those who slept six to eight hours.

**Broken sleep is a problem too.** Dr Katherine Stamatakis and Dr Naresh Punjabi carried out a small experimental study (published in June 2009 in *Chest*) with eleven healthy adults who volunteered for two nights of broken sleep. They found that fragmentation of sleep across all stages of sleep was associated with a decrease in insulin sensitivity and glucose effectiveness.

‘Most of us need between seven and eight hours sleep a night,’ says Caitlin, ‘but many of us aren’t getting enough. We toss and turn. We replay conversations. We think of tasks to do. Our phones beep and before we know it, dawn is breaking and the birds are singing.’

### **Caitlin’s top tips for getting enough shut-eye**

- Establish regular sleep patterns – go to bed in a dark, quiet and comfortable room and get up at the same time every day.
- Turn off your cell phone.
- Avoid caffeine, alcohol and nicotine immediately before bed.
- Eat any large meals at least three hours before going to bed.
- Exercise regularly at least three hours before bed – any later can make sleep difficult.
- Try a snooze food an hour before bed like warm milk. Calcium helps the brain use the tryptophan to make the sleep-inducing substances serotonin and melatonin. Tryptophan is an amino acid found in milk, yoghurt, almonds, turkey and tuna.

**PS** If insomnia has become a chronic problem GI-guru Jennie Brand-Miller recommends a course in “[mindfulness](http://www.mindfulnessstapes.com/author.html)”. <http://www.mindfulnessstapes.com/author.html>

## **News Briefs**

### **Artificial sweeteners linked to diabetes**

People who use artificial sweeteners are heavier, more likely to have diabetes, and more likely to be insulin-resistant compared with non-users, according to data presented at ENDO 2009 ([the annual meeting of The Endocrine Society](#)) and reported in *Medscape Medical News*. The researchers reported they found an inverse association between obesity and diabetes, on one side, and daily total caloric, carbohydrate, and fat intake, on the other side, when comparing artificial sweetener users and control subjects.

Lead author Kristofer Gravenstein said ‘We cannot say that artificial sweetener use causes

obesity, we can say it is associated with it.' However, the researchers suggest that artificial sweeteners may modulate metabolic rate through enteroendocrine cells, therefore contributing to the development of diabetes and/or obesity. This hypothesis needs further testing they say.

'More research is **definitely** warranted,' says the GI Symbol Program's Dr Alan Barclay. 'This is not the first study to show this effect. We don't really know if it is just a spurious association because this particular study is a cross-sectional study, so it may simply be that people who are overweight/obese or have diabetes use more artificial sweeteners to try and reduce their calorie intake. On the other hand, it may be that some artificial sweeteners are adversely affecting the regulation of appetite. Aspartame, for example, contains the large neutral amino acid phenylalanine that may have an effect on our brain. The same coincidental increase in obesity started when aspartame was introduced into Australia too.

### **Mediterranean diet and GI**

'The Mediterranean diet may be a good way of achieving low GI eating,' says Dr William Neville [commenting on an article](#) in the *British Medical Journal* that discussed the benefits of the Mediterranean diet.

### **Eco Atkins**

In June 2008, we reported on Dr David Jenkins' Eco Atkins diet, first presented as a paper at the 5th International Congress of Vegetarian Nutrition. The study has now been published in [Archives of Internal Medicine](#). The one-month study compared a low-carb (27% carbs, 30% protein and 43% fat) vegan 'eco Atkins' diet with a high-carb (58% carbs, 17% protein and 25% fat) vegetarian one that included dairy foods and eggs.

**What were the diets?** The 'test' vegan diet provided the minimum level of carbs recommended by the National Academy of Sciences Institute of Medicine –130 g/day – by eliminating bread, rice, and potatoes but including high-fibre oat bran cereal and vegetables such as okra and eggplant. Protein sources included nut bread and tofu. Fats included olive oil, nuts, and avocados. The control diet simply extended the DASH diet in that it allowed low-fat dairy foods, egg substitutes, and whole-grain foods but eliminated (rather than reduced) meat consumption. All the dieters were provided with prepared foods.

**The results.** Everyone was a winner when it came to weight loss. All the dieters lost around 4 kg (8.8 lbs). However, that's not surprising since both diets were low in calories – calculated to provide about 60% of the calories a person would need to maintain their weight. What does this mean? Well if your weight is stable on 2000 calories per day, you would have been given a daily food plan with 1200 calories in it.

Reductions in 'bad' LDL cholesterol levels and improvements in the ratios between total cholesterol and HDL cholesterol were greater for the low-carb vegan diet. Greater improvements in blood pressure were also seen in the low-carb group, although the difference was of borderline significance.

To answer questions about long-term results when people are not provided with prepared meals, the researchers are currently conducting an ongoing 7-month study reports Jenkins. Preliminary

results show that while body weight reduction is maintained, long-term differences in LDL cholesterol are not as dramatic he says.

### **You lost it, but how do you keep it off?**

As any dieter will tell you, keeping it off is the hard bit. The results of a small study published in the June 2009 issue of the *British Journal of Nutrition*, suggests that what's needed are some really good strategies for appetite control to help you keep the pounds (kilos) off after you have lost weight on a really restricted energy diet. The study also showed there are benefits on the right diet that don't show up on the scales.

In this Danish study, the volunteers were assigned to one of three weight maintenance diets after an 8-week low energy diet where they had all lost lots of weight: a low GI diet rich in monounsaturated fats, a low fat diet and a control diet that you could describe as being typically Western – high in saturated fats and high GI carbs. After 6 months, all the volunteers had regained 4–5 kg. But the typical Western diet resulted in significantly different glucose, insulin, glucagon and HbA1c values, indicating that it could lead to decreased insulin sensitivity long term.

### **How do you cook your carrots?**

Results of a UK study due to be published later in 2009 could have a big impact on how we cook our carrots – and other vegetables too. Carrots are a popular topic here at *GI News*. Not only are they low GI (41) raw or cooked, they are rich in beta-carotene, have some vitamin C and fibre too. They are also rich in a nutrient you may never ever have heard of, falcarinol.

According to one of our favourite websites, [NHS Choices Behind the Headlines](#), UK University of Newcastle researchers say that although eating carrots is strongly tied to reduced risk of cancer, the active ingredient is unknown and that the common belief that beta-carotene in carrots prevents cancer is untrue. They say that their previous experiments have shown that falcarinol slowed the growth of isolated cancer cells and tumours in rats, and that this may be the active ingredient in carrots. To see how different cooking methods alter levels of falcarinol the researchers:

- Boiled carrots then cut them into 1 cm (1/2 in) cubes
- Steamed carrots then cut them into 1 cm (1/2 in) cubes
- Cut carrots into 1 cm (1/2 in) cubes then boiled them
- Cut carrots into 1 cm (1/2 in) cubes then steamed them

Except for the 'steamed then cut' group, all the cooked carrots lost some water-soluble falcarinol. The 'cut then boiled' group lost most, almost 25% more than the 'boiled then cut' group.

How about flavour? Well in a blind taste test, most people (some 70%) preferred their carrots cooked whole before being cut. Read more [here](#).

## Foodwatch with Catherine Saxelby

### Spotlight on chia

When I first read about chia, all I could think was: ‘Yeah, sure, sounds way too good to be true.’ And it does sound amazing – tiny seeds, smaller in size than sesame seeds or flax, yet supposedly loaded with so much omega-3, fibre, protein and calcium that they are proclaimed to be a super food. In fact, in many respects, chia seeds are on a par with flaxseeds, but with around 25% less fat.

In all honesty, I’d never heard of chia before. As with so many ‘new’ discoveries, the hype that accompanied it seemed to overwhelm it. But although new on our food scene, chia has a history. For centuries, the chia plant (*Salvia hispanica*) has been growing in its natural habitat in Central and South America. A member of the mint family, it was a highly valued crop and its seeds were a staple food for Mayans, Aztecs and Southwest Native Americans providing energy and sustenance. Chia is fussy about where it grows. The past five years have seen Australia's Kimberley region become the world's largest producer thanks to being spot on when it comes to latitude and climate. You can see how well it grows here in the following photos from The Chia Company ([www.thechiaco.com.au](http://www.thechiaco.com.au)).

***What do they look and taste like?*** Chia seeds look like tiny sesame seeds and can be black, white or grey. They are sold unprocessed. They’re an ingredient the food producers say you can sprinkle over or add to just about anything – muesli, smoothies or yoghurt – without disturbing the flavour. When combined with water they form a thick gel which helps make them a good mixer.

***What’s in them?*** Like all seeds, chia seeds are high in fat especially the good fats. At around 30% fat, they’re lower than sesame seeds (50%) or nuts but make up for this with an extraordinarily high level of omega-3 – unusual in the plant world. They have 18% ALA which is around the same as flaxseeds (linseeds) at 22%, making them one of the richest sources of the plant form of omega-3 called ALA.

They are also big on fibre. In fact, at 37% they are an outstanding source of fibre, in particular soluble fibre. They have the ability to absorb a high volume of liquid and become thick and gelatinous, thanks to some mucilages. This makes them slowly absorbed. I asked Prof Jennie Brand-Miller about their GI and she said: ‘A long time ago, I was sent chia seeds (part of a project on Pima Indian foods) to assess their GI ... it was impossible because they don't contain enough available carbohydrate.’ If you’re counting carbs, 1 level tablespoon (15 g) supplies less than 1 g of carbohydrate as well as 5 g of fat and 6 g of fibre. And they are gluten free.

Chia seeds contain 15% protein – as much as from wheat – and a variety of vitamins, minerals and trace elements including folate, phosphorus, iron, manganese, copper and potassium. Like almonds and sesame seeds, they have a surprisingly high content of calcium, usually found in dairy foods, but how well this is absorbed is debatable.

## *Ways to add chia seeds to your life*

- Sprinkle them over cereal and muesli.
- Mix 1 tablespoon of the seeds into 1 cup of water and add the gel to smoothies, juices, yoghurts and soups.
- Use them to coat rissoles, meatloaf or burgers – they add crunch to the exterior.
- Because of their neutral taste and light colour, white chia seeds make an ideal part-replacement for white flour in home baking. You can replace 2 tablespoons of flour with chia when you make muffins, cakes and slices to boost the fibre and add some omega-3 fats. According to the Bread Research Institute of Australia, baking chia seeds doesn't alter their nutritional profile.

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 on chia seeds, visit [foodwatch.com.au](http://foodwatch.com.au).

## **In the GI News Kitchen**

American dietitian and author of *Good Carbs, Bad Carbs*, **Johanna Burani**, shares favourite recipes with a low or moderate GI from her Italian kitchen (photographed by Sergio Burani). For more information, check out [Johanna's website](#).

### **Apricot-apple granola with pignoli nuts**

In the northeastern corner of Italy, where I have my home, the continental breakfast has been pushed aside for heartier, more substantial morning sustenance. For a long time, many people in this region have been eating muesli, a mixture of either raw or toasted cereals, nuts and dried fruits. This version is refreshing yet hearty and quite “northern-tasting.” You could try adding some ground cardamom (maybe a ½ teaspoon) to bring out the flavour of the apricots. You might also substitute agave nectar for the honey (just about 1/3 cup should suffice). A ½-cup portion should be plenty for most people. Servings: 18 – ½ cup serves

Vegetable spray

6 cups old fashioned oats

1 tablespoon ground cinnamon

1 cup pine nuts (pignoli)

¼ cup ground flaxseed

1/3 cup canola oil

½ cup honey

½ cup diced dried apple rings (approx. 4)

½ cup diced dried apricots (approx. 7)



- Preheat the oven to 190°C (375°F). Spray a large baking pan with cooking spray. Set aside.
- Combine the next six ingredients (oats through honey) in a large bowl. Mix thoroughly to coat with the oil and honey. Pour the oat mixture into the baking pan, and spread to distribute evenly.
- Bake for 25–30 minutes or until the oats are well toasted, turning the mixture every 5–6 minutes. Remove from oven. Cool thoroughly. Add the dried fruit. Store in airtight container. Can be combined with either milk or yoghurt.

*Per 1/2 cup serve (without milk or yoghurt)*

Energy: 949 kJ/ 185 cal; Protein 6 g; Fat 10 g (includes 1 g saturated fat); Carbs 29 g; Fibre 4 g

Cut back on the food bills and enjoy fresh-tasting, easily prepared, seasonal, satisfying and delicious low or moderate GI meals that don't compromise on quality and flavour one little bit with *Money Saving Meals* author **Diane Temple**. For more recipes, visit [Diane's website](#).

### **One-pot Chinese chicken**

This is an easy chicken casserole for a cold evening, but it is light enough to enjoy on warmer days, too. If other Asian vegetables or green beans are cheaper at your greengrocer, use them instead of the snow peas (mangetout). If the chicken thigh fillets are large, cut them into three pieces for even cooking. Serve with noodles or a low GI rice. Cost per serving (with noodles): AUD\$2.85, and even less if chicken thighs are on special. Serves 4

650 g (about 1 1/2 lb) chicken thigh fillets, trimmed of excess fat, cut in half

2 tablespoons soy sauce

1 teaspoon Chinese 5 spice powder

4 dried shiitake mushrooms

½ teaspoon chicken stock powder

1 tablespoon peanut or canola oil

1 onion, chopped

2 cloves garlic, crushed

1 tablespoon finely grated ginger

1 carrot, cut into thin strips (like matchsticks)

1 teaspoon cornflour

3 baby bok choy, sliced, keep stems and leaves separate  
120 g (4 oz) snow peas, trimmed, sliced into 3  
1 teaspoon sesame oil  
Mung bean noodles, to serve



- Marinate the chicken in 1 tablespoon of the soy sauce and the five spice powder for as much time as you have. Place the mushrooms in a small heatproof bowl and pour over  $\frac{3}{4}$  cup (180 ml) boiling water. Leave for 10 minutes, until softened. Drain, keeping both the mushrooms and the soaking liquid. Pour the liquid into a measuring cup, add the stock powder and enough water to make 1 cup (250 ml) of liquid. Chop up the mushrooms.
- Heat the peanut oil in a large saucepan and brown the chicken for about 1 minute on each side. Remove the chicken from the pan. Add the onion and cook for 4–5 minutes until the onions are soft. Stir in the garlic, ginger carrots and mushrooms. Return the chicken to the pan, pour in the liquid, then bring to the boil, lower the heat, cover, and simmer for 15 minutes or until the chicken is nearly done.
- Mix the cornflour with 1 tablespoon of cold water and pour into the pot. Bring to the boil, stirring, then, then reduce the heat and simmer for 1 minute. Add the bok choy stems, snow peas and remaining soy sauce, cook a further minute, covered. Add the bok choy leaves and the sesame oil and stir until leaves have just wilted. Serve pretty much immediately with the prepared noodles otherwise the greens will lose their lovely brightness.

*Per serve (without noodles)*

Energy: 1230 kJ/ 294 cal; Protein 33 g; Fat 14 g (includes 3.5 g saturated fat and 130 mg cholesterol); Carbs 8 g; Fibre 3 g

### **We have 6 copies of *Money Saving Meals* to give away**

If you love Diane's recipes, here's your chance to try more of them. Hachette Australia has donated six copies of *Money Saving Meals* to give away **to residents of Australia only**. The first six people to email will receive a free copy. Write your name and postal address in the email subject line to be in the draw and whiz your email to: [littlebrown@hachette.com.au](mailto:littlebrown@hachette.com.au)

## Busting Food Myths with Nicole Senior

**Myth: Ancient grains are better for you.**

**Fact: Old and new grains are good for you.**

Ancient grains such as spelt, amaranth and quinoa are fashionable at the moment (along with chia, covered in Foodwatch), albeit hard to get and more expensive. The rising popularity of these ‘old-world’ grains is great because variety in the diet, and a variety in agricultural production, is good for us and good for the environment. However, there are plenty of grains and seeds that are less trendy, but more available, affordable and just as nutritious.

**Spelt** bread is sold at a premium, but what it is? Spelt is an age old variety of wheat, and spelt bread has a medium GI, although some multi-grain varieties make it into the low category. While spelt is advertised as ‘easier to digest’, and ‘suitable for those allergic to wheat’, it is certainly not suitable for those with a wheat allergy or coeliac disease and there is little published evidence for easier digestibility. Some people attribute all sorts of health problems and digestive symptoms to eating wheat, and many will get relief from varying the grains they eat. However, those with symptoms often have a more complex food chemical (natural and added) sensitivity problem rather than intolerance to wheat. But variety is the spice of life, so vary your diet from wheat thrice daily with, for example, oats for breakfast, rice-salad for lunch, and barley hotpot or polenta-based dish for dinner.

**Amaranth** has been grown for thousands of years and traditionally eaten by the Aztecs. It is also gluten-free and provides a welcome ‘starch change’ to rice and potato on the dinner plates of those with diagnosed coeliac disease. It is slightly higher in protein than other grains at 14% (uncooked form) and the plant is very hardy. You can find amaranth breakfast cereal in health food stores and some supermarkets, priced at a premium. Puffed or ‘popped’ amaranth has a high GI. If you’re looking to eat something healthy and different for breakfast, try making your own cereal using a variety of puffed grains (corn, millet, brown rice, buckwheat), rolled oats, chopped nuts and dried fruit – variety in a bowl. Store your designer cereal in a cool place in an airtight container.

**Quinoa** (pronounced keen-wa) is grown in the Andes mountains and was consumed by ancient Incans, cementing South America as the hotspot origin for ancient grains. Like other grains it is high in carbohydrate (68%), low in fat (4.8%) and moderate in protein (12%), and it is gluten-free as well. You cook it similarly to rice – 1 cup dry quinoa to 2 cups water. It has a low GI when cooked, cooled and re-heated, which fits in nicely with cooking a large batch and freezing in meal-size portions for convenience. You can also use it to make a porridge.

I cooked some quinoa recently, and served it in place of pasta with vegetables and butter beans in tomato-based sauce. I enjoyed the tiny grains, but my beloved was less keen on the ‘funny rice’. Sometimes it’s hard being a food pioneer, but it won’t stop me!

If you’d like to find out more about the health benefits of wholegrains and how to cook great recipes using them, check out Nicole’s book [www.eattobeatcholesterol.com.au](http://www.eattobeatcholesterol.com.au)

## Talking Turkey with Prof Trim

### Are 'energy' drinks all they're cracked up to be?

Caffeinated 'energy drinks' ('Red Bull'; 'Mother'; 'V' etc.) have become a popular part of the soft drink market, and are also sometimes used as a way of losing weight. But are they all they're cracked up to be? Do they provide energy? And are there any particular downsides?

The answers are simple – but complicated. In the first place, such products tend to be loaded with both caffeine and sugar. The caffeine (often the equivalent of 2–3 good strong cups of coffee in a serving), is likely to provide an energy 'hit' to the around 50% of the population who are caffeine sensitive. For these people, such 'energy' drinks are likely to cause jitteriness and inability to sleep, and possibly increase the adverse effects of stress. (It's no coincidence that manufacturers have specifically targeted the youth market who tend to 'binge' on such drinks to keep themselves 'up' while drinking alcohol until late which otherwise might bring them 'down'). For this reason, it's also possible that such drinks might have a weight loss effect in some people (by reducing hunger levels).

The sugar in these drinks provides the biological 'energy', or calories, which makes them truly able to be called 'energy' drinks. This is likely to offset any weight loss benefits by increasing calorie intake (unless the caffeine is very effective in reducing other food intake). The energy it provides to carry out activity could be brief and intermittent.

A potentially more serious downside is death. A January 2009 article in the *Medical Journal of Australia* details the case of an 18 year old otherwise healthy young man in Port Macquarie NSW, who died after a day of moto-cross racing and drinking 'energy' drinks. Surgeons claim the excessive ingestion of caffeine and taurine in the drinks, combined with strenuous physical activity, can produce a heart attack by inducing coronary vasospasm.

## Your Success Stories

'I started using the GI in the summer of 2008 in hopes of lowering blood glucose levels. I heard a physician on TV talking about how spikes in blood glucose level will cause a surge in hormones. I had been dealing with adult acne that doctors had blamed on hormones. So, I decided to give the GI a try. Not only did I see a lessening of acne but I have dropped 20 pounds (9 kg) in weight! I am hooked on the GI.'

'Just wanted to write and say "thank you for your work." By following a low GI diet I went from 196 pounds (89 kg) down to 168 pounds (76 kg) in 4 months. I have not felt deprived at all. In the past I have tried practically every other diet including very low carb diets but felt that I could not maintain them over a long period of time. Following the GI eating plan has made all the difference in the world!'

'I had begun to feel tired and had an urge to eat anything sweet constantly. My mother passed

away from a stroke, which was brought on by diabetes. And my elder sister had developed type 2 diabetes. Well, with my family history, and my weight at 210 pounds (95 kg) I knew I was in trouble, I heard about the low GI diet while surfing the web, bought a book on it and never looked back. Within 3 days my energy level increased, and I lost 4 pounds (1.8 kg). It's been 4 months, and I'm down a total of 50 pounds (23 kg). I am never hungry. I hope to lose 25 more pounds (11 kg). By the way I'm 55 years old, going through menopause, and still losing!' – Betty

Send your GI success story to <http://www.glycemicindex.com/success.htm>.

## GI Symbol News with Alan Barclay

### Spotlight on artificial sweeteners

The sugar veto for people with diabetes has helped create a huge market for alternative sweeteners from Aspartame (Equal/Nutrasweet) to stevia. In the second of a three-part series, Dr Alan Barclay checks out the pros and cons of non-nutritive sweeteners.

*Non-nutritive ('artificial') sweeteners* provide few calories (kilojoules), carbs or any other nutrient. Typically they are hundreds of times sweeter than sucrose, so you only need a minute amount. However, so you can use them in a similar way to white sugar (e.g. by the teaspoon), the manufacturer usually adds a bulking agent such as maltodextrin.

These sweeteners have virtually no effect on blood glucose levels and can help you cut back on your calories if you use them to replace equivalent amounts of sugar or honey etc. Their major drawback is that they aren't as versatile as sugar and honey and other nutritive sweeteners (see July *GI News*). This is because they tend not to be heat stable, they don't brown or caramelize and they don't add texture or bulk to food when used in baking. They also tend to be much more expensive gram for gram than their nutritive sweetener counterparts.

What about the elephant in the room: their safety? There are many stories floating around on the Internet about this. This concern is not new – the safety of saccharin was questioned when it was first invented 130 years ago. Aspartame and sucralose have both been thoroughly investigated, and the United States Food and Drug Administration (FDA) keeps a register of any reported adverse effects. They are generally regarded as safe by both the FDA and Food Standards Australia New Zealand (FSANZ). As such, they can be used by all Australians, except for people with a relatively rare condition (1 out of 10,000 newborns) known as phenylketonuria. FSANZ also considers all non-nutritive sweeteners currently available in Australia to be safe for pregnant and breast feeding women, although some may choose to avoid saccharin and cyclamate as they both cross the placenta into the growing fetus, and may also be found in breast milk.

More to the point, do they actually do their job and help with weight loss? A recent review found little evidence that non-nutritive sweeteners had any benefits for weightloss. And there's an interesting coincidence: aspartame and sucralose, for example, were introduced into the Australian food supply in the early 1980s and 1990s, respectively, and since then sugar

consumption has been reduced by about 20%, suggesting that we have been using them instead of sugar as intended. However, since the early 1980s, rates of overweight and obesity have nearly doubled in Australia. Is this because people eat more high calorie foods when they use non-nutritive sweeteners – for example, eating a hamburger with the “works” and a large chips when they buy a diet soft drink? Or is that non-nutritive sweeteners confuse the way our brain regulates our feelings of hunger and fullness. Much more research is needed to answer this vital question.

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

For more information email: [alan@gisymbol.com](mailto:alan@gisymbol.com)

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## **GI Update with Alan Barclay and Fiona Atkinson**

### **Dr Alan Barclay answers your questions**

***‘We grow ‘all blue’ potatoes, which are suppose to be high in mineral content, are they a better choice for a person with type 2 diabetes? Are some potatoes better to eat than others?’***

‘I believe the blue (and other exotic coloured) potatoes have a higher antioxidant content, but they are most likely still high GI (I am not aware of any of them having been tested though). On balance, I think people with diabetes should focus on the GI, rather than antioxidants – as potatoes are a significant source of carbohydrate, and antioxidants can be obtained from other (e.g. non-starchy) vegetables without having detrimental effects on blood glucose levels. Marfona, Almera and Nicola are the potato varieties that I am recommending at present.’

***‘Is it true that fructose doesn't require insulin in order to be absorbed? And if so, does it mean that it is recommended for those of us trying to ward off insulin resistance?’***

‘It is correct that fructose does not need insulin to be absorbed by our body’s cells (not to be confused with absorption from the intestines into the blood stream where insulin is not involved, but sodium in most instances). The evidence with respect to insulin resistance is mixed – more research is needed to answer this question.’