

# 1 June 2008

## GI News—June 2008



- The pros and cons of juices and juicing
- Prof. David Jenkins's Eco-Atkins diet
- Gestational diabetes and a low GI diet
- Should people over 50 eat more protein?
- Do we get all the vitamin D we need from the sun?
- Low GI carbs benefit young people with type 1 diabetes

In a recent op-ed *New York Times* piece, Sandra Aamodt and Sam Wang wrote about fears of a recession that may lead American families to loosen their belts *literally*. They make the interesting point that reining in spending in the short term, may actually cause us to be more relaxed about other things. What's the connection? Sandra Aamodt shared the original research on this with *GI News* which explains the crucial role glucose plays in self control and why exerting willpower in one direction (such as cutting back on spending) often leads to backsliding in another (watching what you eat). Read all about it in Food for Thought. As ever in *GI News* there are all our usual features including recipes, success stories and our regular columns with Dr David and Prof Trim.

Good eating, good health and good reading.

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## Food for Thought

### Fuelling willpower

The benefits of carbs (glucose), the brain's critical fuel source, in tests like word recall, maze learning, arithmetic, short-term memory, rapid information processing and reasoning are well documented. All types of people – young people, university students, people with diabetes, healthy elderly people and those with Alzheimer's disease – have shown an improvement in what's called cognitive function after eating glucose or a carb meal.

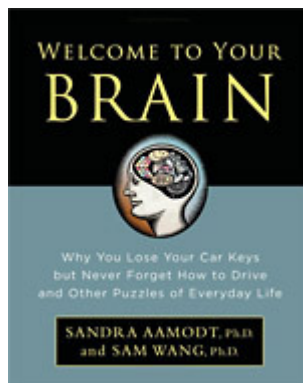
Willpower seems to be affected by our glucose supplies too according to Matthew Gailliot and researchers from Florida State University, which is possibly why being strong minded about one thing can lead to backsliding in another and helps explain why after firmly saying no to an impulse purchase you can find yourself eating a whole chocolate bar! Apparently even relatively small acts of self control deplete the brain's available supply of glucose which then reduces our capacity for exercising further self control until we have topped up the glucose tank. The Florida study involved numerous tests but a key one found that people who drank a glass of regular lemonade between one task requiring self control before beginning a second also requiring a fair bit of willpower performed equally well on both tasks, while

people who drank a sugarless diet lemonade in between made more errors on the second task than on the first.

Writing in the *Journal of Personality and Social Psychology* the researchers draw the conclusion: ‘... the body’s variable ability to mobilize glucose may be an important determinant of people’s capacity to live up to their ideals, pursue their goals and realize their virtues.’ They also point out that they used sugar in their studies because it is fast acting and convenient, but that ‘complex carbohydrates may be more effective for sustained self control.’ Research in memory tests has certainly shown that low GI carbs enhance learning and memory more than high GI carbs, probably because there is no rebound fall in blood glucose.

And there's more. According to Sandra Aamodt and Sam Wang, willpower grows with practice. ‘People who stick to an exercise program for two months report reducing their impulsive spending, junk food intake, alcohol use and smoking. They also study more, watch less TV and do more housework,’ they write.

– *Journal of Personality and Social Psychology* (2007, Vol. 92. No 2.)



– Sandra Aamodt PhD and Sam Wang PhD are authors of *Welcome to Your Brain: Why you lose your car keys but never forget how to drive and other puzzles of everyday life*.

## News Briefs

### **Eco-Atkins diet: good for you and good for the environment**

Prof. David Jenkins, the father of the glycemic index, wondered what would happen if you swapped the butter, eggs, cheese and meat in the Atkins diet for soy and other vegetable protein foods including gluten and vegetable fats, nuts, avocado, olive and canola oil. In effect exchanging saturated fat and animal protein for healthy monounsaturated and polyunsaturated fats and vegetable protein.



Prof David Jenkins

The University of Toronto Eco-Atkins study of 44 overweight people with a high blood cholesterol level was initially conducted for four weeks with all food provided. Half the participants followed the Eco-Atkins (low carb vegan) diet, comprising 43% fat and 30% protein, with the remainder eating a low-fat NCEP vegetarian diet (25% energy as fat; 16% as protein) to compare the effects of different levels of protein and fat from plant foods. All the dieters lost around 4 kg (nearly 9 pounds), but those on the Eco-Atkins diet also reduced their 'bad' LDL cholesterol by around 20% compared with the low-fat dieters whose cholesterol dropped by around 10%.

After careful instruction, 23 of the dieters continued their eating plans for a further six months doing their own meal prep. Those on the Eco-Atkins diet lost a further 2 kg (around 4 1/2 pounds) and their LDL cholesterol stayed 5–6% below what's called baseline (what it was at the starting point).

Prof. Jenkins said that while the Eco-Atkins diet may not be everyone's cup of tea it also offers many environmental advantages compared to popular high protein diets where up to 1 kg of meat can be eaten each week. 'Even if meat-rich diets were healthy and health professionals didn't have concerns about a potentially increased risk of bowel cancer, it would not be possible to feed a large proportion of our planet on such a diet.'

Talking to *GI News*, dietitian Sue Radd says: 'What the Eco-Atkins diet shows is that just as not all carbohydrates are equal, neither is all protein – and plant protein has the added benefit of lowering LDL cholesterol and improving insulin resistance more. The 150 g of protein in the Eco-Atkins diet was from a mix of soy foods, gluten (seitan) and nuts. If you don't fancy gluten (available canned or chilled from Asian stores) or eating lots of soy foods, try other legumes such as chickpeas, lentils and beans and more nuts and seeds.'

The study has not yet been published, but the findings were presented at the 5th International Congress on Vegetarian Nutrition in California in March 2008. For more details check out the [study protocol](#).

### **Will a low GI diet help prevent gestational diabetes?**

The jury is still out according to the latest issue of The Cochrane Library, calling for further large studies with longer follow-up. Lead review author Joanna Tieu, at the Women and Children's Hospital at the University of Adelaide said: 'While our results were promising, the evidence is not sufficient to recommend changes in clinical practices, because of the limited number of trials. [The three eligible studies included only 107 women.] Our results suggest that a low GI diet may be a benefit to mother and child, however. This is because low GI diets such as fresh fruits and vegetables and unprocessed wholegrain foods tend to slow down the digestion of food. Slow digestion allows the body to better adjust to the load of glucose

coming in after a meal.'

Gestational diabetes affects an estimated 4% of pregnant women in the US, UK and Australia, and up to 14% worldwide. No one knows exactly what causes it, possibly hormones from the placenta block the action of the mother's insulin. Without enough insulin, glucose cannot enter cells. Instead, it builds up in the bloodstream, causing hyperglycemia. The excess glucose and other nutrients flow through the placenta, causing the baby's insulin to rise, thereby encouraging faster growth. This produces significant problems such as a very large baby, an increased risk of the shoulder getting stuck during birth and injury to the mother during birth. There is also increased risks of an induced birth or caesarian birth. 'Gestational diabetes also has been associated with spontaneous labor and premature birth,' Tieu said. 'And children of women with gestational diabetes are at increased risk of obesity, glucose intolerance and diabetes in late adolescence and young adulthood.' For more information, check out the [Intervention Review Abstract](#).

### **Low GI carbs benefit young people with type 1 diabetes**

For children and teenagers with type 1 diabetes, it is absolutely essential to do everything possible to achieve and maintain optimal blood glucose levels. Poorly managed blood glucose levels, can mean kids don't reach their full growth potential – this isn't an area where you get the chance to 'backspace' and try again.

Carb counting has been the key dietary strategy to maintain optimal blood glucose levels and reduce the risk of complications. A new study from the University of Newcastle and John Hunter Children's Hospital has found that swapping high GI for low GI carbs brings additional benefits for children and adolescents with type 1 diabetes on multiple daily injections. In the randomized study, 20 young people aged 8 to 17 with type 1 diabetes ate high GI (84) and low GI (48) pre-made test meals for breakfast containing 60 g carbs (4 exchanges). Each child's insulin dose was standardized and continuous glucose monitoring was used to assess changes. The low GI meal produced a significantly lower postmeal glucose response for 30–180 minutes compared with the high GI meal. The researchers also investigated insulin timing for a low GI meal and found ultra short acting insulin given before the meal remained the optimal insulin therapy.

What does this mean for young people and their families with diabetes? 'Our study clearly showed that carbohydrate type as well as carbohydrate amount has an effect on blood glucose control after meals in children with diabetes. This was demonstrated in children on 4 injections per day who had already been taught carbohydrate counting. Substituting healthy low GI foods for high GI choices helps reduce post meal hyperglycemia and is good for the whole family. In addition, young people with diabetes should try to always inject before they eat as this assists blood glucose control,' says study co-author and dietitian Carmel Smart – *Diabetes Care* published ahead of print online May 5, 2008

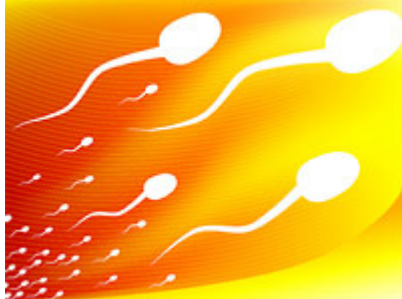
For more information contact: [carmel.smart@hnehealth.nsw.gov.au](mailto:carmel.smart@hnehealth.nsw.gov.au)

### **What's new?**

***The Fertility Diet*** by Dr Jorge Chavarro, Prof Walter Willet and Patrick Skerrett (published by McGraw Hill)

Infertility affects one in six couples. There are various reasons – a structural problem like blocked fallopian tubes, or a disease of the uterus like fibroids or endometriosis. Many cases (18–30%), though, are due to a failure of ovulation – eggs just don't ripen and release when they're supposed to. IVF is an option, but it's time consuming, expensive, invasive and has a

high failure rate. A simpler solution may be a ‘fertility diet’ aimed at increasing certain micronutrients and improving insulin sensitivity through diet (including low GI carbs), weight control and increased physical activity. We reported on this research from Harvard in January 2008 *GI News*. Here's the book that discusses the research in detail and provides natural ways to boost ovulation and chances of getting pregnant.



### **[www.eatgoodcarbs.com](http://www.eatgoodcarbs.com)**

For the past fifteen years, American registered dietitian Johanna Burani has been counseling people and writing about how to incorporate low GI carbohydrate choices into balanced meals and snacks. Her new website shares her acquired knowledge and skills. Check it out: [www.eatgoodcarbs.com](http://www.eatgoodcarbs.com)

### **Who has taught you most about food and cooking?**

It's Australian Food Media Awards time. This year they have widened the field to give home foodies in Australia the chance to take part in the inaugural People's Choice Award. You can vote for one of the listed nominees: Margaret Fulton, Di Holuigue, Lyndey Milan, Ian “Herbie” Hemphill, Bill Granger, Stephanie Alexander, Maggie Beer and Joanna Savill. Or for your mother. All you need to do to cast your vote is go to the Food Media Club Australia website [www.foodmediclub.com.au](http://www.foodmediclub.com.au) and follow the Australian Food Media Awards prompts. Nominations close 31 July 2008.

## **Food of the Month**

### **Juices and juicing**

We are often asked about the benefits of juice as a way of totting up those daily fruit and veggie serves. Here, dietitian and nutritionist Catherine Saxelby explains the pros and cons of juices and juicing and provides tips on enjoying these (usually) low GI drinks along with some great fruit and veggie combos.



Catherine Saxelby

The juice bar cult has created a whole new market for freshly-squeezed juices and smoothies,

often enhanced with a shot of wheatgrass, guarana, echinacea or ginseng. You can sip orange and carrot; peach, guava and pineapple; apple, capsicum and celery; watermelon, mint and beetroot – all healthy and on-the-go. Driven by the youth market, juice bars are a place for young people to gather after school, just as cafes are meeting places for older generations. And juice bars make fruit and vegetables seem exciting, enjoyable and tasty.

Fresh juices, along with raw foods, have long been recommended by natural health practitioners since the nineteenth century. Juices are said to be an integral part of detox regimes, used to ‘cleanse the digestive system’, ‘draw out toxins’ and make the body more alkaline. Some of these claims are groundless, but are capitalised on by juice bars and all-fruit drinks to highlight the virtues of juice.

### **Juice pros**

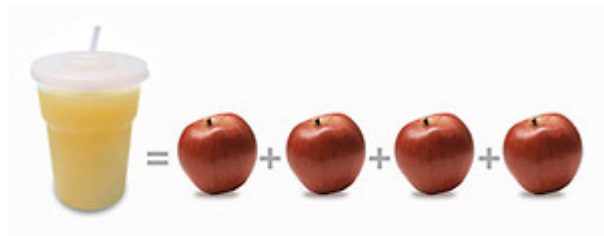
Juice is healthy and natural. Freshly-squeezed, 100% juice with no added sugar offers many health advantages. It:

- Retains the maximum content of vitamins, minerals, enzymes and antioxidants. Juices are rich in all the nutrients of fruit and vegetables namely vitamin C, beta-carotene (which is converted to vitamin A in the body), folate, vitamin B1, niacin, vitamin K, potassium and magnesium.
- Can provide some of your recommended 7 serves of fruit and vegetables a day.
- Is helpful for fussy eaters who don’t eat many fruits or vegetables.
- Packs in nutrition for an underweight person with a small appetite OR someone recovering from chemotherapy who can’t eat much.

### **Juice cons**

Fruit juice is fruit that’s concentrated. Juices pack in a lot of kilojoules/calories and represent fruit in a form that’s all too easy to seriously over consume. The fibre and intact structure have been removed, and with that goes the ‘natural brake to over consumption. Look at this comparison:

- A 200 g (7 oz) apple PROVIDES 3 g fibre and 300 kilojoules (71 calories) and TAKES 10 minutes to eat.
- A 650 ml apple juice (2½ cups) PROVIDES zero fibre and 1300 kilojoules (309 calories) and TAKES 2 minutes to drink. In fact a large juice is equivalent in food value to 4 apples but takes a fraction of the time and volume to drink and you are missing out on the fibre in the skin.



### ***The bottom line***

- Think of a large juice as more of a mini-meal or a substantial snack than just something to quench your thirst.
- Order the smallest size or share one with a friend.

- Try the fifty/fifty option and dilute juice with water or sparkling mineral water. Or fill up the glass with ice cube first then drizzle over the juice.
- Drink water if you're thirsty (no kilojoules/calories there) and eat a whole piece of fruit.
- Fruit and vegetable juice combinations 'dilute' the sugars and calories so it's not so concentrated. Try adding carrot, spinach or other green leafy veggies, celery, tomatoes or other vegetables you like with your fruit juice.

### ***Juicy combos***

Here are some fruit and veggie combos you can make at home or enjoy in a juice bar. Keep in mind that apple and carrot will work in just about anything and there's nothing like ginger for added zing.

- Carrot, apple and ginger (add in a bit of celery too if you like)
- Tomato, apple and parsley
- Watercress and pear
- Carrot and kiwi fruit
- Beetroot, apple and carrot (add a little parsley too if you like)
- Carrot and ruby grapefruit or orange
- Watermelon, celery and pineapple

Catherine Saxelby is the author of [Zest](#) and [Nutrition for Life](#) available online.

## **Low GI Recipes of the Month**

Our chef Kate Hemphill develops deliciously simple recipes for *GI News* that showcase seasonal ingredients and make it easy for you to cook healthy, low GI meals and snacks. For more of Kate's fabulous fare, check out her website: [www.lovetocook.co.uk](http://www.lovetocook.co.uk). For now, prepare and share good food with family and friends.



Kate Hemphill

### **Lemon and kaffir lime prawn pilaf**

This is a lovely and easy dish to make. It can easily be doubled if serving a large group, or halved for dinner for two. The number of prawns can be adjusted according to their size or you can add any other shellfish you like. Kaffir lime is normally associated with Thai food and has a distinct fresh flavour. If buying a bunch, fresh kaffir lime leaves can be frozen until ready to use. If you can't get fresh, dried leaves can also be used in this recipe. It's a real one-pot wonder, but you need to use a cooktop to oven to table pan. And for a complete meal all

you need to add is a big crispy green garden salad tossed in a vinaigrette dressing. It makes generous serves for four people or a lighter meal for six.

Serves 4–6

1 brown onion, finely chopped  
2 tablespoons olive oil  
2 cloves garlic, crushed  
4 fresh kaffir lime leaves, spine removed and very finely chopped  
1 lemon, juiced and rind finely grated  
1½ cups (300 g) basmati rice  
2½ cups (625 ml) salt reduced vegetable stock or water  
16 green King prawns (shrimps), whole

*To serve*

2 tablespoons fresh coriander, chopped

- Pre-heat the oven to 180°C (350°F). In a large casserole dish, sauté the onions in 2 tablespoons of olive oil until beginning to go tender. Add the garlic and continue to cook, stirring, for 1 minute. Add the kaffir lime leaves, lemon juice and rind. Tip the rice into the pan and keep stirring until all the grains are lightly toasted and covered in onion and spices.
- Pour in the stock and bring to the boil, stirring occasionally. When boiling, turn off the heat and arrange the whole prawns on top of the rice. Cover with the lid on and place in the oven for 20 minutes. The rice and prawns should be cooked through. To serve, stir through chopped fresh coriander.

*Per serving (based on 6 serves)*

1243 kJ/ 295 calories; 15 g protein; 7 g fat (includes 1 g saturated fat); 42 g carbohydrate; 1 g fibre

### **Cajun stuffed peppers**

This makes a hearty dinner allowing two peppers (capsicums) per person, or you can serve the peppers on a platter as part of a buffet. Wrap any leftover filling in a tortilla, or eat it as a 'bean' salad on its own. Cajun seasoning is a flavoursome blend of paprika, pepper, dried herbs and aromatics. It's available in supermarkets.

Serves 4 for a main meal or 8 as part of a buffet



8 small red peppers (capsicums)  
4 rashers lean smoked bacon or ham, cut into 1 cm (1/2 inch) pieces  
1 small clove garlic, crushed



2 teaspoons Cajun seasoning  
1 x 400 g (14 oz) can cannellini beans, rinsed and drained  
1 x 400 g (14 oz) can kidney beans, rinsed and drained  
1 cob corn, kernels removed  
1 1/2 tablespoons finely grated parmesan  
1–2 tablespoons olive oil for drizzling

- Pre-heat the oven to 170°C. Cut the top off the peppers at the top (to make a lid) and scoop out the membrane and seeds. Set aside on baking tray and keep the lids.
- Sauté the bacon in a non stick pan until it starts to brown, then add garlic and Cajun seasoning. Stir until fragrant then add the beans, corn and parmesan and stir to combine well.
- Stuff the peppers with the bean mixture and top with the ‘lids’. Drizzle a little olive oil over and bake for 45 minutes, or until capsicum flesh is tender.

*Per pepper (capsicum)*

884 kJ/ 210 calories; 14 g protein; 7 g fat (includes 1.5 g saturated fat); 20 g carbohydrate; 8 g fibre

## Busting Food Myths with Nicole Senior

**Myth:** We get all the vitamin D we need from the sun.



Nicole Senior

**Fact:** My mother was recently told she had low vitamin D levels. I was quite surprised as she is an active lady who loves the outdoors and spending time in her garden. Living in a sunny country like Australia, surely she gets enough ‘sunshine vitamin’? Looking into this subject further, I discovered low vitamin D levels are a real problem for many people, especially older people whose skin is less efficient at making vitamin D from sunshine. People over 70 need three times as much vitamin D as those under 50.

The risk also increases in those living in less sunny climates, those with dark skin, those who don’t expose their skin to the sun for religious reasons, and those who always wear high protection sunscreen. My mother’s low vitamin D levels are now starting to make sense – she has taken skin cancer prevention very much on board and never goes outside without sunscreen, a long sleeved shirt and a hat. Low vitamin D levels are also passed on from mother to baby as vitamin D deficient mothers make vitamin D deficient breastmilk. Also of interest is that obese people are more likely to have low vitamin D because it is fat-soluble vitamin and gets trapped in body fat unable to travel around the body to where it is needed.

What does vitamin D do? It is vital for metabolising calcium and strong bones. In fact my mother's vitamin D status was discovered after she broke a rib, albeit as a result of falling off a ladder! But the magic of vitamin D doesn't end with bones. It is implicated in protection against cancer, Parkinson's disease and high blood pressure; regulating the immune system; insulin secretion and blood glucose control. Research has also found a strong correlation between higher vitamin D levels and HDL (good) cholesterol levels. A recent study also found a link between low vitamin D levels and depression suggesting the potential for more vitamin D to boost mood – giving new support for the idea of a 'sunny disposition'.

Vitamin D deficiency requires supplementation to correct, but how can it be prevented? It makes sense to get some sunshine each day if possible, but dietary sources have taken on renewed importance – especially in countries like Australia where skin cancer incidence is high. Foods containing vitamin D include some fatty fish (mackerel, salmon, sardines) and fish liver oils, as well as small amounts in liver, cheese and eggs. In the US, milk is fortified with vitamin D but in Australia, vitamin D is added only to some brands of dairy foods and milk alternatives (eg, soy milk). All margarine spreads in Australia and some in the US have vitamin D added making them good to include for general good health as well as healthier cholesterol levels. You can check the label to ensure minimal trans-fat levels.

Nicole Senior is author of [Eat to Beat Cholesterol](#) and [Heart Food](#) available online.

For more information on nutrition and heart health visit [www.eattobeatcholesterol.com.au](http://www.eattobeatcholesterol.com.au)

## Dr David's Tips for Raising Healthy Kids

**So you think you can dance?**

**There's no two ways about it. You can. So shake it.**

I am often asked the following question: 'Isn't obesity mostly a question of biology? If you happen to be born with "fat genes," isn't there really very little you can do about it?' It can seem overwhelmingly difficult to maintain a healthy body weight in countries like the US, Canada, Australia and the UK today. But this hasn't always been the case. Since World War II, most people in America and Europe have had plenty to eat, but obesity rates didn't start rising until the 1970s in the United States and the 1980s or 1990s in Europe.



Just as there are biological forces that push body weight up, there are powerful forces that keep weight down. Just think about having a large Thanksgiving dinner: afterwards, you

didn't want to even look at food for a while, and you probably ate less the next day. The bottom line is that the obesity epidemic is caused by our environment, not our genes. If we could return to the environmental conditions of the 1960s, the obesity epidemic would vanish. It may take some time to make the world a healthier place to live. But until then, we can create a protective environment around our children at home. Not too many surprises here in the following list.

- Stock up on good food: fruits, vegetables, whole grains, nuts, beans, fish, lean protein, reduced-fat dairy products.
- Don't let junk food such as cookies, cakes, sweetened cereals and sugary drinks through the front door (or the back one). Save treats for special occasions: You don't have to give up sweets entirely, but go out for them instead of having them at home.
- Avoid fast food. We did a study that showed overweight teens consume about 400 more calories on a day when they consume fast food compared with a day in which they don't.
- Make physical activity the focus of the home instead of television. Don't allow TVs in the kitchen or bedrooms. Instead, give children the basic tools to be active: jump ropes, balls, baseball gloves, Frisbees, cricket bats, tennis rackets, bikes, skate boards, surf boards. And get out there and have some fun too. Remember, if you are active, your kids will follow your example.

And here's the best bit, saved for last.

- Shake it! Have fun. Encourage your kids to dance. When kids are having fun, they are not thinking about it as exercise. As you know, I'm not a fan of sedentary stuff like watching TV, but perhaps reality shows like 'So you think you can dance' can play a part in getting more kids moving more.

– Dr David Ludwig is Director of the Optimal Weight for Life (OWL) program at Children's Hospital Boston and author of [\*Ending the Food Fight\*](#)

## Move It & Lose It with Prof Trim

### **Should people over 50 eat more protein? And does this need to be timed with exercise?**

Losing muscle mass is a significant problem with age. Combined with an increase in fat mass, this can lead to decreased ability to carry out daily tasks, increased prospects for dangerous weight gain and a greater potential for damaging falls. Weight training has been proposed as a possible way of at least maintaining, if not increasing muscle mass amongst those in the sixth decade of life and beyond. But studies examining this have had conflicting results, giving rise to the suggestion amongst some medical practitioners, that lean body mass loss is an inevitable function of ageing.



To test the effects of nutrition with weight training, scientists have compared the results of weight training in older men after eating a normal omnivorous diet or a lacto-vegetarian diet. They've found increases in strength in both groups, justifying resistance training as an effective technique for improving muscle function with age. But muscle mass usually increases in the meat-eating group whereas it decreases in the vegetarian group. This suggests that while vegetarian diets may be healthy in older age, they could have disadvantages in the limited amount of protein supplied, particularly if resistance muscle work is employed, as it should be for musculo-skeletal benefits in the aged.

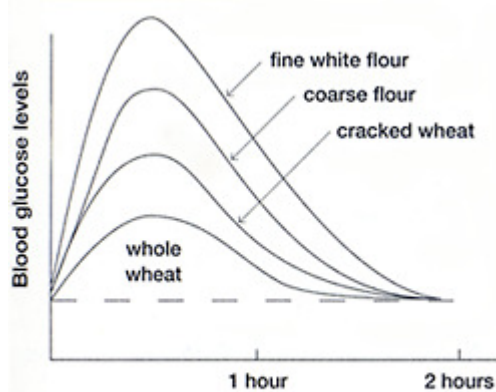
In answer to the second part of the question: more recent research has shown that protein is best taken up in muscle if eaten within 1 hour before or 2 hours after resistance exercise.

## Your Questions Answered

**I am curious why cereals like Bran Flakes and Sultana Bran that look so healthy, and everyone assumes are healthy, actually have a high GI?**

Bran Flakes and Sultana Bran (Raisin Bran in the US) are fibre-rich breakfast cereals designed to keep you 'healthy on the inside' as the ads say. But sadly they are high GI and digested in a flash because the long cooking times, the presence of lots of water, the flaking process and finally the toasting all conspire to make the starch very accessible. Here's how Prof Jennie Brand-Miller describes what happens in [\*The New Glucose Revolution\*](#).

'Grinding, milling, flaking, popping and puffing grains radically changes nature's architecture and makes it easier for water to be absorbed and digestive enzymes to attack the food. This is why many foods made from fine flours tend to have a high GI value. The larger the particle size, the lower the GI value, as the diagram below shows. One of the most significant alterations to our food supply came with the introduction, in the mid-19th century, of steel-roller mills. Not only did they make it easier to remove the fibre from cereal grains, but also the particle size of the flour became smaller than ever before. Prior to the nineteenth century, stone grinding produced quite coarse flours that resulted in slower rates of digestion and absorption. When starch is consumed in 'nature's packaging' – whole intact grains that have been softened by soaking and cooking – the food will have a low GI. For example, cooked pearl barley's GI value is 25 and most cooked legumes have a GI of between 30 and 40 whether home cooked or canned.



The larger the particle size, the lower the GI value.

**I was diagnosed with PCOS about 20 years ago with most of the standard symptoms. My doctor did a glucose tolerance test, which came out to be normal. Why I am not showing any signs of insulin resistance, if PCOS is supposed to be caused by it?**

Insulin resistance is the most common cause and 70–80% of women with PCOS have insulin resistance. But a glucose tolerance test doesn't pick up insulin resistance. It picks up the inability of the pancreas to deal with insulin resistance. If your pancreas has lots of 'puff', your glucose tolerance will remain normal, perhaps all your life. Only a fraction of people with insulin resistance go on to develop impaired glucose tolerance. Nonetheless, high insulin levels can cause other problems downstream, and the ovaries are particularly sensitive. Any woman with diagnosed with PCOS also needs to have the actual cause of the problem pinpointed so she gets the right treatment for her and thus the best outcomes. Some of the other causes are anorexia, bulimia, stress, excessive exercise, high blood levels of prolactin and tumors of the adrenal glands, ovaries or pituitary gland. And for some women the cause is unknown. There's a really excellent paper by Dr Warren Kidson on PCOS called 'The Polycystic Ovary Syndrome – A Starting Point Not a Diagnosis'.

## Your Success Stories

**'Just wanted to say I was glad to see that there is support for the low GI diet in youth with type 1 diabetes.'** – G.

'Last summer (2007) my daughter had a sports physical 3 weeks before turning 15 and we discovered she had type 1 diabetes. Her A1c was 12.7. We read all we could and I asked the nutritionist about GI affecting her sugar (blood glucose) and was told it's a myth. We were told the insulin to carb ratio was all that mattered. Well in the first month my daughter and I discovered that high GI foods wrecked havoc on her blood glucose. Her diet was more balanced before they got a hold of us. They were just telling us she had to have this many carbs at a meal. Whenever I asked about the amount being too high or that it was difficult to create a balanced diet with that many carbs in a meal, I was told that it's only for a while until we determine how much insulin she needs. So we read and guessed and made our own adjustments and though she already had a balanced diet we tweaked it more; taking out almost all white flour and using whole wheat instead and other substitutions. Two months later her A1c was down to 6.3 and 3 months later it was down to 5.4. This was achieved without low sugar. We only one episode on Christmas morning and that was due to homemade cinnamon rolls, insulin over compensating, and guitar hero!

I am tired of the fact that we try not to have her sugar go above 120–130 two hours after a meal and are told that we don't need to worry about it. But the low GI foods achieve this without much difficulty. Not to say that there aren't special occasions when she eats a high GI food but she tries to throw in a real low GI food with it. Anyway just wanted to thank you for doing the research to support saying that low GI foods can have a positive impact on type 1's blood glucose.'

(UPDATE: Just before posting June GI News we heard the great news that G's daughter's A1c was 5.0.)

– This Success Story was sent to Dr Tonja Nansel of the US National Institute of Child Health and Human Development. It was Tonja's and her team's research on the low GI benefits for young people with type 1 diabetes that we covered in May 2008 *GI News*.

### **'Fifty and fit.' – Lance**

'Love your newsletter! Been a subscriber for two years. Four years ago I went from 205 lb to 150 lb, and this morning I weighted in at 151 lb: holding steady. Your website and newsletter has been a great help in education and allowing me to diversify my diet. While my story continues to have a happy ending, thanks to an understanding of the GI, my story is not that different to many others ... Over the years my weight crept up, and by age 47 I was 205 lb. I had no formal understanding of diet and its effect on health and weight gain. Other than in my early twenties I quit smoking, stopped drinking alcohol at all, and have only eaten animal protein from fish and seafood. With these positive lifestyle changes I still put on the weight.

Without any awareness that the GI existed, I followed the Dr Bernstein's "medically supervised weight loss" program (a low glycemic diet), and lost 55 lb in 4 months. Once I started losing the weight I really wanted to know why, and why without the hunger. This led me to the understanding of the GI. Needless to say the weight loss changed me for life. At 48 (in 2004) I started on a physical fitness program: weight training and running. In the fall of 2005 I ran my first marathon (42.2 km) on the original track in Athens Greece. Then on January 27th this year I ran in the Khon Kaen International Marathon in Thailand and qualified, in my age category, for the Boston marathon with a time of 3:30:14.

Over the last four years, I have had some ups and down along the way; gaining and losing a little weight. But the more I understand the GI of foods, the easier the weight management gets. When I see people struggling with their weight/health, I feel so fortunate to have the knowledge of how to easily manage my weight. It is nice to see resource websites and newsletters like GI News that continues get the message out about the benefits of a low glycemic diet.'



**‘Most of the time and only because of glucose revolution I stay in the 104–120 fasting and 130–140 range after eating.’ – Gretchen**

‘I was recently diagnosed with type 2 diabetes (5 months ago) and wasn’t surprised, I come from a very strong family history of diabetes (insulin dependent) on both father’s and mother’s sides. I chose not to go in medication but to use GI instead along with 45–60 minutes of exercise everyday. I have had very tight control of my glucose most of the time ...will go weeks and can count on one hand the number of occasions that it’s gone above 150. Most of the time and only because of glucose revolution I stay in the 104–120 fasting and 130–140 range after eating. I have learned so much from your newsletters and the New Glucose Revolution books and have lost about 20 lb – and all painlessly by eating GI way.’

### Inspire Others - Share Your GI Story

*If healthy eating the GI way has made a difference to your life by helping you achieve blood glucose control or lose weight, please share your success with readers of GI News. It’s the real life success stories that give people the motivation they need to get started and help them appreciate that they are not alone. Just click anywhere in this text box to share your story. As a thank you, we will send you a copy of “Shopper’s Guide to GI Values 2008” if your story is published in GI News*



## GI Symbol News with Alan Barclay

### **Saturated fat and GI symbols**

A reader recently sent in the following question: 'I have noticed that many food products labelled as being low GI actually contain more than 10% saturated fats. Doesn't this defeat the purpose of aiming for a healthy diet?'

I'll answer this question in two parts. First of all, foods high in saturated fat will raise blood cholesterol levels, and may contribute to the development of type 2 diabetes as well as heart disease. Globally, most diabetes and heart associations recommend that people aim to have less than 10 per cent of their daily kilojoule intake from saturated fats – this is equivalent to eating no more than 22 grams of saturated fat for the day for the average adult in the developed world.

To help people select foods with a lower saturated fat content, food authorities allow a range of claims. For example, in Australia and New Zealand, to make a low in saturated fat claim, a food must not contain more than 1.5 grams of saturated fatty acids per 100 grams, and a drink must not contain more than 0.75 grams of saturated fatty acids per 100 grams. However, it is important that a balance of healthier fats are also consumed, so higher fat foods with a saturated fat content of less than 28% of total fat are also able to make certain claims. Importantly, the recommendation to consume less than 10% saturated fat is for the total diet – not specific foods.

As for low GI claims, there are numerous low GI claims and logos on foods and drinks, and they are currently not regulated in most countries. As such, there are no criteria to limit low GI claims to healthier foods and shoppers should beware. However, the GI Symbol Program, and its Glycemic Index Tested logo, has food-category specific nutrient criteria for saturated fat, and the cut-offs for each food category have been set to ensure only foods or drinks with reduced amounts of saturated fat are allowed to be part of the program (generally less than 20% of total fat) . This does not necessarily mean that they contain less than 1.5 grams of saturated fat per 100 grams however, but it does mean that they are among the best choices within their particular food category. Therefore, to choose the healthiest lower GI alternatives within a food group, simply look for the Glycemic Index Tested logo. The amount of saturated fat will be shown on the product's nutritional label.

If you are a food manufacturer or health professional and interested in finding out more about GI Limited's healthy fats and saturated fat criteria for specific food products, please contact me (see email below).

### **Contact**

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