



GI NEWS

The Official Glycemic Index Newsletter

MAY 2016



THIS MONTH Put pre-diabetes in reverse: Prof Jennie Brand-Miller's tips; Dr Neal Barnard on the veg advantage for better blood glucose; Eating to reduce blood pressure: Dr Alan Barclay's tips; Nicole Senior says eggs and prawns OK on the heart-healthy menu; Bean up to reduce your risk of heart disease and type 2 diabetes says Blue Zones, Dan Buettner; Make the most of single serves: Anneka Manning's creamy custard bread puddings, Hit100's little cottage pies and stuffed eggplant, tomatoes and capsicums; How to grab a slow-digesting low GI breakfast when speed matters.

FOOD FOR THOUGHT

CAN PRE-DIABETES BE REVERSED?

"I am interested in learning more about the stage before things go wrong," said Sanna, who has been a subscriber to *GI News* for over eight years. "Pre-hypertension, pre-diabetes, and maybe there are other "pre's". It's the annoying no-man's land where you are not feeling well but don't yet qualify for medical help. Doctors don't seem to take much interest in this crucial phase of opportunity."

Prof Jennie Brand-Miller is collaborating in an international study to identify the most efficient lifestyle intervention pattern for preventing type 2 diabetes in people who are classified as having 'pre-diabetes' (i.e. at high risk) at the University of Sydney. She has talked to many people with pre-diabetes who found the diagnosis absolutely devastating and are anxious that it is a one-way ticket to type 2 diabetes, testing their blood glucose every day and worrying about their blood glucose levels for the rest of their lives.

"Pre-diabetes is not a one-way ticket," says Jennie. "However, it is a warning bell. It means that your body doesn't handle blood glucose as well as it used to or should and although your blood glucose levels are higher than they should be, they aren't in the diabetes zone. I can't promise you that you will be able to stop it in its tracks, but I can reassure you there's plenty you can do about it to reduce your risk of it developing into diabetes. The United States Diabetes Prevention Program showed us that three out of five people with pre-diabetes were able to prevent or delay diabetes simply by healthy eating, being more active and losing a modest amount of weight. I would recommend you see a dietitian if you can.



Here's what you need to do to prevent diabetes and to bring your blood glucose back to the healthy zone.

- Aim for small weight loss. Research shows that people with pre-diabetes who lose only 7% of their body weight (that's just 7 kg if you weigh 100 kg at diagnosis) can prevent or delay the onset of type 2 diabetes.
- Lower your intake of saturated fats by choosing low fat dairy foods and lean meats and eating less biscuits, cakes, pastries, restaurant meals and fast foods.



- Boost your intake of good fats like omega-3. That means include fish (canned salmon or tuna is fine) in your diet a couple of times a week.
- Lower the GI of your carbs (see our barley and quinoa stuffed veg recipe in this month's GI News Kitchen).
- Increase your intake of naturally occurring dietary fibre, especially wholegrain cereals (the low GI versions are best), fruit and veggies.
- And get regular exercise – you need about 30 minutes of activity every day. Walking is fine, but there are all sorts of fun things to do including cycling, dancing, swimming, ball games, yoga, ballet barre, Pilates.”

Q&A: Type 2 diabetes runs in my family (my Dad has it). Why is it one of the fastest growing chronic diseases worldwide and what can people like me do to prevent getting it?

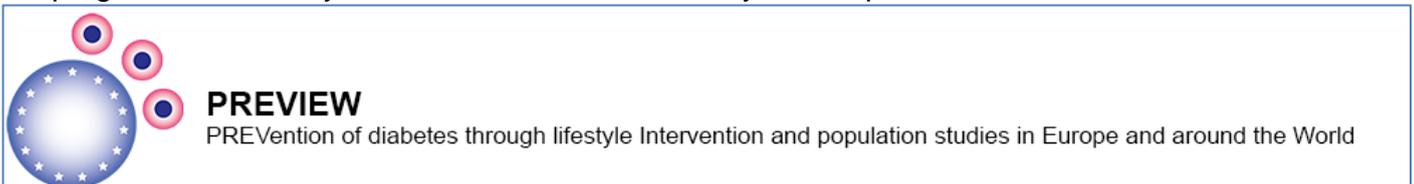
“The increase is being driven in part by the rise in overweight and obesity in all age groups,” says Prof Jennie Brand-Miller. “There are many complex reasons behind our weight gain creep but key ones include a simultaneous increase in global food abundance together with increased sedentariness and decreased physical activity during both work and possibly leisure time. Recent studies have also indicated that a deviation from the normal sleeping pattern of 7–8 hours sleep per night, particularly short duration of sleep, increases appetite and promotes obesity and its related diseases (e.g. type 2 diabetes and cardiovascular disease).

There are two ways to prevent type 2 diabetes: by preventing weight gain creep in the first place and by preventing people who already have pre-diabetes from progressing to diabetes with weight loss *and weight maintenance*. The main drivers in both situations are changes in dietary and physical activity patterns, but we also need to address disturbed sleep patterns and workplace stress.”

Q&A: Is there a best diet for diabetes prevention?

“Unfortunately, despite convincing evidence from clinical trials that type 2 diabetes can be prevented or delayed through intensive lifestyle interventions resulting in weight loss, the reality is that weight regain and incremental weight ‘creep’ are very common” says Prof Jennie Brand-Miller. “It is possible that this may jeopardise diabetes prevention and it remains to be seen if a longer period of weight maintenance is also preventative. The recent [Diogenes Study](#) (Diet, Obesity and Genes) identified two dietary factors associated with shorter-term prevention of weight regain after prior weight loss: higher protein intake and lower glycaemic index (GI). The findings showed that overweight and obese participants assigned to the combination of modestly higher protein and lower GI *ad libitum* had significantly better completion rates and weight maintenance after six months as compared with the official dietary guidelines. Indeed, those consuming the high protein-low GI combination diet continued to lose weight during the weight maintenance phase and were twice as likely to have maintained a 5% weight loss compared to the other groups. Interestingly, when they *stopped* choosing low GI carbs, they re-gained the weight quickly.

Here at the University of Sydney we are one of eight sites around the world taking part in the 3-year international PREVIEW Study. Its primary goal is to identify the most efficient lifestyle intervention pattern for the prevention of type 2 diabetes in people who are pre diabetic overweight or obese individuals (i.e. those at high risk of diabetes). The aim of this study is to find out the best methods (through diet, exercise and behavioural modification) of maintaining weight loss and keeping diabetes at bay. The first results of this study will be published in 2018”





NEWS BRIEFS

The health benefits of properly planned plant-based vegetarian or vegan diets for people with type 2 diabetes – 4 studies from PCRM’s Dr Neal Barnard who has undertaken a number of studies looking specifically at the benefits of vegetarian and vegan diets for people with type 2 diabetes.

THE VEG ADVANTAGE.

The evidence is piling up that a plant-based diet is very good for your health. Beans, peas, lentils, nuts, whole grains, fruits and vegetables provide a wealth of good-for-you nutrients, fibre and phytochemicals, and vegan diets are usually naturally higher in fibre, magnesium, folate, vitamins C and E, and phytochemicals, while tending to be lower in calories, saturated fat and cholesterol. Plant-based eaters tend to be thinner and have lower cholesterol and blood-pressure levels, a reduced risk of coronary heart disease, type 2 diabetes and lower cancer rates – especially colorectal cancer.

Over the past twenty years, PCRM’s Dr Neal Barnard has undertaken a number of studies looking specifically at the benefits of vegetarian and vegan diets for people with type 2 diabetes. A small pilot study, conducted with Georgetown University, showed that a low-fat vegan diet led to much greater improvements in blood glucose control and body weight, compared with a more conventional “diabetes diet.”

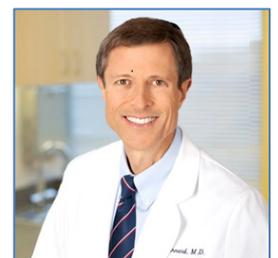


In a [74-week randomised trial](#), 99 adults with type 2 diabetes were placed on either a vegan diet or the 2003 American Diabetes Association (ADA) diet guidelines, which emphasised limiting calories and controlling carbohydrates. The vegan diet proved better at controlling BGLs and cholesterol. After an additional year of observation, the vegan group still had an edge when it came to controlling blood glucose and cholesterol.

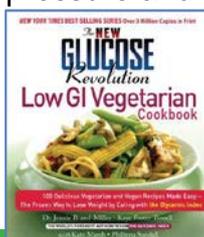
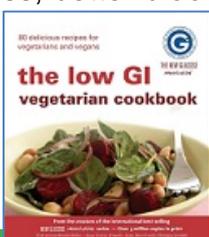
A 10-city [study](#) conducted at GEICO plants around the US again showed that a vegan diet can improve body weight and blood glucose control. The researchers found that it is also promising for people with advanced diabetes. A recent [randomised controlled pilot study](#) showed that a low-fat vegan diet led to substantial improvements in painful diabetic neuropathy.

Research scientists know that adhering to all therapeutic diets requires some effort by the participants. Dr Barnard’s team has specifically monitored the acceptance of the vegan diet and [reports](#) that it appears to be no more challenging than other prescribed diets for people with type 2 diabetes.

In a 2014 [systematic review and meta-analysis](#) of 255 people (average age 42.5 years) followed for an average of 24 weeks (range 4–74 weeks) his team found that vegetarian diets were associated with improved glycemic control in people with type 2 diabetes – a significant 0.39% reduction in HbA1c.



“A plant-based diet is the preferred approach to type 2 diabetes,” Dr Barnard said. “It is easy, effective, and all the ‘side-effects’ are good ones—weight loss, better blood pressure and cholesterol, and less need for medications.”



You can find out more about Dr Barnard’s work [HERE](#). For vegetarian and vegan recipes, check out Prof Jennie Brand-Miller’s *Low GI Vegetarian Cookbook* available from your favourite online seller.

PERSPECTIVES WITH DR ALAN BARCLAY

REDUCING BLOOD PRESSURE

Cardiovascular diseases (CVDs) include heart disease, stroke and other blood vessel diseases. According to the World Health Organisation more people die each year from CVDs than from any other cause. The latest estimates from 2012 indicate that 17.5 million people died from CVDs, representing nearly $\frac{1}{3}$ (31%) of all deaths globally.



Along with high blood glucose and blood fats (cholesterol and triglycerides), high blood pressure is one of the most common risk factors for developing cardiovascular diseases.

Blood pressure is simply the pressure of your blood against the walls of your blood vessels (arteries) as it is pumped around your body by your heart. As your heart pumps and relaxes, your blood pressure rises and falls in a regular wave like pattern, so blood pressure peaks when your heart pumps (systolic blood pressure) and falls when your heart relaxes (diastolic blood pressure). Normal blood pressure is where systolic blood pressure is less than 120 and diastolic blood pressure less than 80 mm of mercury (Hg).

If you have high blood pressure, arguably, one of the most effective ways of reducing it is to lose some weight. Losing 5–10% of your current body weight may help lower your systolic blood pressure by 5–20 mm of mercury. For an 80 kg (176 pound) person, this would mean losing 4–8 kg (9–18 pounds). To lose around 0.5 kg (around 1 pound) of fat a week you need to eat around 2000 kJ (500 calories) a day less than you are now. In addition to eating less kilojoules, a healthy low GI diet is an effective way of [losing weight](#) and [keeping it off](#).

We all know that exercise is good for us, but few may know that regular physical activity can lower systolic blood pressure by 4–9mm of mercury. Aim to do at least 30 minutes of physical activity each day, and to lose weight, do at least 60 minutes a day.

While drinking too much alcohol definitely increases blood pressure, moderate regular consumption can lower systolic blood pressure by 2–4 mm of mercury. Moderate drinking means drinking no more than 2 standard alcoholic drinks each day, and having at least 2 alcohol free days each week. One standard drink equals: 100ml wine; 285ml regular beer; 425ml low-alcohol beer; 30ml spirits; 60ml fortified wine

One of the main reasons for the dietary guideline to eat less / limit added salt (sodium chloride) is to help lower blood pressure. For adults, the recommended upper limit of sodium intake is 2,300 mg per day, equivalent to about 1 teaspoon of salt, but most people consume more. Research has found that consuming 5.5 grams (1 teaspoon) less salt each day may help lower systolic blood pressure by 1–5 mm of mercury. Simple ways of reducing salt intake include:

- When shopping, look for products that are 'salt reduced' or have 'no-added salt'.
- Reducing or omitting salt in cooking. Instead of using salt try using spices such as pepper, garlic, chilli, mustard, curry paprika and/or cardamom, or add herbs like parsley, basil, oregano, chives, rosemary, coriander, mint, sage, thyme, tarragon and/or marjoram.
- Avoiding putting salt on the table.



What about potassium? While it is not widely known, diets high in potassium also help lower blood pressure. Men should aim to consume 3,800mg and women 2,800mg of potassium each day. Eating plenty of vegetables (at least 5 serves a day), and a moderate amount of fruit (at least 2 serves a day) will help achieve this. Best sources of potassium include:

- Leafy green vegetables such as bok choy, silverbeet, spinach.
- Vine fruit such as tomatoes, cucumbers, zucchini, eggplant and pumpkin.
- Root vegetables including potatoes, sweet potatoes, carrots.

Legumes (such as baked beans (preferably no added salt), kidney beans, cannellini beans and peas) and fruits such as apples, oranges and bananas are moderately good sources of potassium.

What about calcium? Calcium also has an effect on blood pressure as both sodium and calcium excretion is linked in our kidneys. Men and women should aim to consume 1,300mg of calcium each day. Eating 2–3 serves of reduced or low-fat dairy or calcium-enriched alternatives, each day will help you achieve this. While calcium is found predominantly in milk, fortified soy beverages and dairy foods, moderate amounts can also be obtained from bony fish (salmon, sardines), legumes (beans, lentils, chickpeas) and certain nuts (almonds, walnuts).



Alan Barclay PhD ([Linkedln](#)) is a consultant dietitian and Chief Scientific Officer at the Glycemic Index Foundation. He worked for Diabetes Australia (NSW) from 1998–2014 and is a member of the editorial board of Diabetes Australia’s health professional magazine, *Diabetes Management Journal*. Alan has authored or co-authored over 30 scientific publications, is co-author of *The Low GI Diet: Managing Type 2 Diabetes* (Hachette Australia) and *The Ultimate Guide to Sugars and Sweeteners* (The Experiment, New York) His latest book is *Reversing Diabetes* (Murdoch Books Australia). Contact: alan.barclay@gisymbol.com

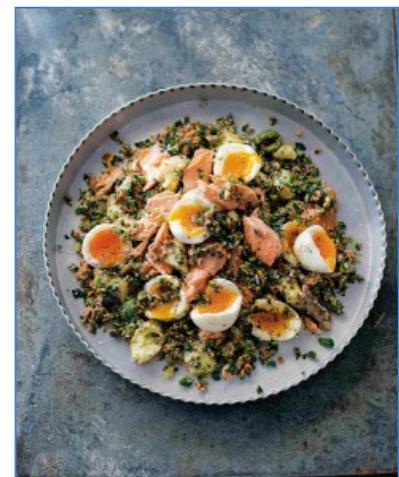
Q&A WITH PROF JENNIE BRAND-MILLER

I have type 2 diabetes. How much carbohydrate should I aim for each day? I have read that very low carb diets make it easier to manage blood sugar. Are there any problems with them?

How much carbohydrate a day? This depends on many things including your body size, age, gender, plus how active you are, your food preferences, food culture and family background. And on the amount and type of diabetes medication you are taking.

In the past 20 years, diabetes organisations around the world have recommended that people with diabetes aim to consume 45–60% of their energy intake from carbs. However, ongoing research suggests that there’s quite a range of eating patterns that can help people with diabetes manage their blood glucose levels in the short to medium term.

People with diabetes consuming lower carbohydrate/higher protein, low GI, Mediterranean vegetarian, and vegan diets for at least six months will lower their HbA1c by 0.12 to 0.47 percentage points with the low carb diet providing the 0.12% reduction and the Mediterranean diet the 0.47% reduction. We don’t really know what happens after that as we don’t have any very long-term (> 2 years) studies at this stage.





By *very low* I assume you mean the kick start phase of diets such as Atkins. A recent CSIRO study found that both high carbohydrate and very low carbohydrate (around 75 grams per day) diets produced improvements in diabetes control. But without enough carbohydrate in your diet you may experience in the short term: muscle fatigue, causing even gentle exercise to be an exceptional effort; insufficient fibre intake and therefore constipation; headaches and tiredness due to low blood glucose levels; bad breath due to the breakdown products of fat (ketones); negative mood.

A real concern with low carb diets is the potential for adverse cardiovascular outcomes. High saturated fat intake is usually part and parcel of a very low carb diet. Even a single meal high in saturated fat can have an adverse effect on blood vessels by inhibiting vasodilation, the normal increase in the diameter of blood vessels that occurs after a meal. A short-term and long-term effect of most low carb diets includes an increase in LDL cholesterol. Compounding this, there may be a low intake of micronutrients that are protective against disease. For this reason, a vitamin and mineral supplement is an essential accompaniment to most low carb diets.

To ensure that blood glucose levels can be maintained between meals, your body draws on the glucose stored in the liver; that form of glucose is called glycogen. Supplies of glycogen are strictly limited and must be replenished from meal to meal. If your diet is low in carbohydrate, your glycogen stores will be low and easily depleted.

The take-home? For most people diabetes is a lifelong condition. What matters is that you adopt a healthy eating pattern that you enjoy, that helps you manage your diabetes and that you can live with for the rest of your days. Food after all is one of life's great pleasures to enjoy with family and friends. Talk over your options with your diabetes dietitian, as within wide limits there is flexibility in the macronutrient proportions that are considered healthy.



Professor Jennie Brand-Miller (AM, PhD, FAIFST, FNSA, MAICD) is an internationally recognised authority on carbohydrates and the glycemic index with over 250 scientific publications. She holds a Personal Chair in Human Nutrition in the Boden Institute of Obesity, Nutrition, Exercise and Eating Disorders and Charles Perkins Centre at the University of Sydney. She is the co-author of many books for the consumer on the glycemic index and health.

HEARTFELT HEALTH WITH NICOLE SENIOR

Here, I'll be focusing on good food and good living for heart health throughout 2016. Each month, I'll bring you news you can use and ideas to inspire you to look after your heart. Whether it's high cholesterol, high blood pressure, high blood glucose, a big belly or the whole darn lot, you'll find advice, hints, tips and tricks to help you and your family get back to whole-hearted health.

EGGS, SHELLFISH AND CHOLESTEROL

Eggs and prawns on the menu

One of the most common misconceptions about food and heart health is that eggs and prawns are off the menu because of their cholesterol content. I'm delighted to say that avoiding these nutritious





and delicious foods is not necessary. The story started with the recommendation that dietary cholesterol needed to be limited in order to lower high levels of cholesterol in the blood. We now know dietary cholesterol influences blood cholesterol levels very little, unless the overall diet is high in saturated fat. What does really matter is eating a low proportion of saturated and trans fats to unsaturated fats; we need to replace saturated fats with unsaturated ones.

Of course a heart-friendly diet is a lot more than just the fats you eat; a cardio-protective eating pattern is plant-based containing a variety of cardio-protective foods such as wholegrains and legumes, nuts and seeds, vegetables and fruit, as well as some seafood, lean meats and eggs, and healthy oils. Seafood such as prawns, are heart-friendly despite their cholesterol content. Prawns are actually low in fat and even contain some omega-3 fats we know are good for the heart. Eggs contain 11 vitamins and minerals, are easy to cook and versatile (there's an old French saying that the hundred folds or pleats in a chef's hat represent the 100 ways to cook an egg). We may not know where that saying came from, but we do know that eggs are a great food for all ages.

The best way to enjoy prawns and eggs is in heart-friendly company: poached eggs with mushrooms and baby spinach on wholegrain sourdough with a drizzle of extra virgin olive oil rather than a bacon and egg sandwich on white bread and butter, for example. Chinese style deep fried honey prawns on white rice is not the best, but a prawn salad, or noodle and vegetable stir fry with prawns is worthy of a health halo.

FIBRE AND YOUR HEART

Sure, you've heard of dietary fibre, but there are actually many different types that look after your body in different ways. You probably know fibre is good for your digestive system, but you may be surprised to know just how effective fibre is in protecting your heart and blood glucose levels. A new [report](#) by researchers at the University of Wollongong (my alma mater) is a reminder that fibre is not one single nutrient but rather a range of complex components within fibre-rich plant foods including whole grain and fibre-rich grain foods, legumes, fruits, vegetables, nuts and seeds.

Types of fibre, their food source and health benefit

Types of fibre	Source	Health benefits
Arabinoxylan	Most whole grains, legumes, vegetables and fruits	Supports healthy blood glucose levels
Pectin	Legumes, fruits, vegetables, nuts and seeds	Helps reduce cholesterol reabsorption; Improves bowel health
β-Glucans	Barley and oats	Supports healthy blood glucose levels; Helps reduce cholesterol reabsorption
Fructans	Barley, wheat, rye and some fruits and vegetables	Improves bowel health
Raffinose	Legumes	Improves bowel health
Resistant starch	Wholegrains and legumes	Improves absorption of nutrients; reduces cholesterol

So how do you make sure you get the amount and variety of fibre your body wants? The first thing to know is that grain and legumes are the richest sources (many people think its fruits and



vegetables). Once you've processed that factoid, you'll realise breakfast is a great opportunity to start your day with a fibre-rich, wholegrain breakfast cereal (such as oat porridge, wheat biscuits, muesli, bran flakes and the like) – and it's super convenient too.

Choosing wholegrain bread at lunch is a great option to rack up your grams of daily fibre. High-fibre dinner options include whole wheat pasta, brown rice, quinoa and barley, as well as lentils, kidney beans and chickpeas. And to hit a high score for fibre and heart protection, add a handful of nuts each day, a couple of pieces of fruit, at least 5 handfuls of vegetables and a sprinkling of seeds like sunflower, pumpkin, sesame and chia for good measure.

There's a whole lot of science behind the health benefits of plant foods and the take home message is eat and enjoy them.

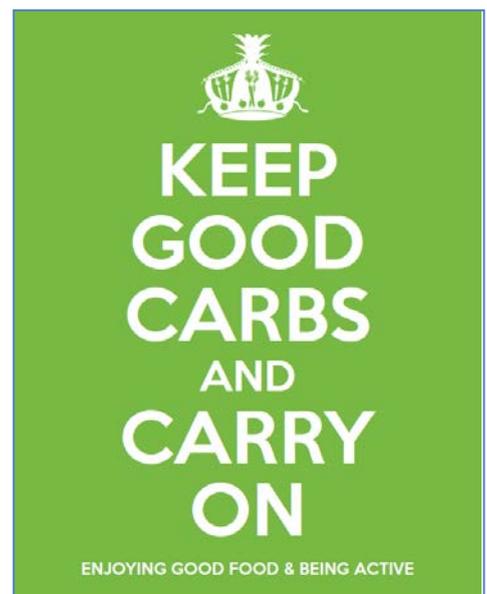


Nicole Senior is an Accredited Nutritionist, author, consultant, cook, food enthusiast and mother who strives to make sense of nutrition science and delights in making healthy food delicious. You can follow her on [Twitter](#), [Facebook](#), [Pinterest](#), [Instagram](#) or check out her [website](#)

KEEP GOOD CARBS AND CARRY ON

BEANS

By filling bellies, tasting good and keeping for a long time, beans take out the plant food trifecta. So it's not surprising our savvy forebears made the most of them millennia ago in the Old World and the New. They are certainly brimming over with good things including slow-digesting carbs, fibre, vitamins, minerals and phytonutrients. It's their protein, however, that makes them really stand out from the plant food crowd – typically around 8–10 grams per half cup cooked dried beans. To be full of beans for longer and reduce your risk of heart disease and type 2 diabetes, take a tip from people who have lived the longest says *Blue Zones* author Dan Buettner – they typically eat at least a cup of beans, peas, chickpeas or lentils a day.



What about weight? A systematic review and meta-analysis in the [American Journal of Clinical Nutrition](#) suggests that eating beans (and other legumes) may help with a modest reduction in body weight even when you aren't "dieting". Exactly how and why is unclear although it may well be related to their protein or fibre content.

What about wind? The main culprits are their large indigestible sugars (raffinose, stachyose and verbascose) which zip straight through the system to the large bowel where the resident healthy bacteria make hay you might say: they ferment them and then feast on them. Gas is a natural outcome. Some beans seem to be windier than others and some people don't seem to suffer to the same extent. Acclimatize your insides by eating small amounts regularly and rinsing dried beans well before soaking them if cooking from scratch (discard the soaking water). With canned beans, rinse and drain them really well. Why all this washing? Well, those indigestible sugars are water soluble and this helps to wash them away.



Good carb countdown: Half a cup of cooked cannellini beans has about 365 kilojoules (87 calories), 7g protein, 0g fat, 12 g carbs (1g sugars/ 11g starches), 6g fibre, 2mg sodium, 336mg potassium, and a low GI (31); the GL is low (4).

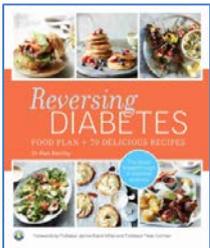
TARRAGON CHICKEN AND BEANS

Serves 4 • Preparation 15 minutes • Cooking 35 minutes

Ingredients olive oil spray • 4 x 120g (4oz) boneless, skinless chicken thigh fillets, fat trimmed • 2 red onions, cut into wedges • 2 celery stalks, sliced • ½ cup dry white wine • 1 small handful tarragon leaves, plus extra leaves and flowers to serve • 2 x 400 (14oz) cans no-added-salt borlotti beans, rinsed and drained • ½ cup reduced-fat evaporated milk • 1 cup frozen peas, thawed • 400g/14oz broccolini, steamed

Method Spray a large heavy-based saucepan with olive oil and place over medium heat. Cook the chicken for 2 minutes on each side or until browned. Transfer to a plate. • Add the onion wedges and celery to the pan and cook, stirring, for 2 minutes or until the onions have softened. Pour in the wine and stir until combined.

Return the chicken to the pan, cover and cook for 15 minutes or until the chicken is cooked through. • Add the tarragon leaves, borlotti beans, evaporated milk and peas to the pan and cook for 10 minutes or until the sauce is thickened and heated through. • Sprinkle the chicken and beans with the extra tarragon and serve with the broccolini.



Per serving Energy 2465kJ/586 cal; protein 50g; fat 12g (includes 4g saturated fat; saturated : unsaturated fat ratio 0.5); carbohydrate 63g; fibre 14g; sodium 200 mg; potassium 1800mg; sodium : potassium ratio 0.11

This recipe is from Dr Alan Barclay's new book, *Reversing Diabetes* (Murdoch Books), and is available from good bookshops and online.

IN THE GI NEWS KITCHEN THIS MONTH

Enjoy the perfect portions of these tasty individual serves: Aneka Manning's creamy custard bread puddings, Hit100's little cottage pies and from The Low GI Vegetarian Cookbook, stuffed eggplant (aubergine), tomatoes and capsicums (peppers).

GOOD FAMILY FOOD

Tasty, nourishing, sustaining, easy to prepare and not hard on the wallet: Aneka's family fare ticks all the right boxes. Each month she will share one of her favourite recipes from the *Low GI Family Cookbook*.

CREAMY CUSTARD BREAD PUDDINGS

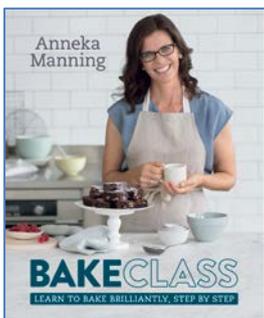
- Preparation time: 15 minutes
- Standing time: 15 minutes
- Cooking time: 25–30 minutes
- Serves 4



About 6 thick slices sourdough fruit loaf, crusts removed, lightly toasted
2 tablespoons pure fruit apricot spread
1 egg
185ml (6fl oz) can light evaporated milk
1 tablespoon brown sugar
½ tsp vanilla essence
Icing sugar, to dust (optional)
3 tablespoons Greek-style plain yoghurt, to serve



Preheat oven to 180°C (350°F/Gas 4). • Spread 1 side of each toasted bread slice with the fruit spread and then cut into 2.5cm (1in) pieces. Place the bread pieces in 4 x ½-cup ramekins and press down firmly. • Use a fork to whisk together the egg, evaporated milk, sugar and vanilla essence. Pour evenly over the bread in the ramekins. Set aside, pressing the bread down occasionally, for 15 minutes or until the bread has absorbed most of the liquid. • Place the ramekins in a deep roasting pan and add enough boiling water to the pan to reach halfway up the sides of the dish. Bake for 20 minutes or until the top is golden and the custard mixture is just set. Serve sprinkled with icing sugar (if using) and topped with a dollop of yoghurt.



Per serving

Energy: 1130 kJ/270 cal; Protein 11g; Fat 5g (includes 2g saturated fat; saturated : unsaturated fat ratio 0.67); Available carbohydrate 46g; Fibre 2g

BakeClub founder **Anneka Manning** shares her delicious better-for-you recipes the whole family will love. Through cooking school and her new book (Murdoch Books), she teaches home cooks to bake in practical and approachable yet inspiring ways that assure success in the kitchen. You can follow her on [Twitter](#), [Facebook](#) or check out her [website](#).

DOCTOR MEETS CHEF

INDIVIDUAL COTTAGE PIES

Who doesn't love comfort food? You can tuck into this delicious one-pot wonder on its own or serve it with a crispy, fresh garden salad. As for the potato topping, you can ring the changes and try mashed sweet potato or mashed pumpkin or even a mashed potato and parsnip combo. The photograph shows it made in a 4-cup baking dish, but we think it's more fun made in individual ramekins.

- Preparation time: 25 minutes
- Cooking Time: 50 minutes
- Serves: 4

1 tbsp extra virgin olive oil
1 medium brown onion, diced
250g (9oz) beef mince, topside
1 large carrot, finely chopped
1 medium zucchini, finely chopped
3 celery stalks, trimmed, finely chopped
½ cup tomato paste
⅓ cup water
1 tsp sage
1 tsp paprika





- 1 garlic half, peeled, finely chopped
- ½ cup green peas
- Pinch salt and pepper
- 1 large lower GI potato such as Carisma or nicola
- ½ can (200g/7oz) cannellini beans, drained, mashed
- ¼ cup milk
- 1 tbsp canola oil
- 2 tbsp reduced-fat cheddar cheese

Preheat oven to 200°C/400°F (180°C/350°F fan-forced). • Heat oil in a fry pan over medium-high heat. Cook onion, stirring, for 3 minutes or until softened. Add mince. Cook, breaking up mince, for 8 minutes or until browned. • Add carrot, zucchini and celery and stir in the pan for 3 minutes. Add tomato paste, water, sage, paprika, garlic and peas and stir to combine. Reduce heat to medium-low. Cover and leave to simmer for 15 minutes or until vegetables are tender. Season with salt and pepper to taste. • Meanwhile, cook potato in a large saucepan of boiling water for 8–10 minutes or until tender. Drain the water and add in mashed cannellini beans. Return to saucepan over low heat. Mash. Stir in milk and canola oil. Remove from heat. • Spoon mince mixture into four small (1-cup) ovenproof dishes. Top with mashed potato. Sprinkle with cheese. Bake for 15–20 minutes or until golden.

Per Serving

Energy: 1490kJ (356Cal), Protein 27.7g, Fat 13.8g (saturated 4.9g; saturated : unsaturated fat ratio 0.55), Carbohydrate 28.3g (sugars 7.7g; starches 20.6g), Dietary Fibre 10.1g and Sodium 553mg.



[Hit 100](#) provides a meal solution for people living with diabetes and pre-diabetes in Sydney. To find out more about their home-delivered meals and 100 points food-tracking app visit:
 Website: Hit100.com.au
 Facebook: www.facebook.com/HitOneHundred

VEG UP!

BARLEY AND QUINOA STUFFED VEG

Bring your blood glucose back into the healthy zone with these deliciously low GI, full-o-fibre veggies from *The Low GI Vegetarian Cookbook*.

- Serves 4
- Preparation time: 25 minutes
- Cooking time: 1 hour

- ½ cup pearl barley
- ½ cup quinoa
- 3 cups water
- 2 medium size eggplants (aubergine), halved lengthwise
- 1 tbsp olive oil
- 1 onion, finely chopped
- 1 stick celery, diced
- 2 garlic cloves, crushed
- 1 teaspoon dried oregano
- 1 zucchini (courgette), finely diced
- 2 red capsicums (peppers), halved, deseeded
- 6 large ripe tomatoes





2 tbsp pine nuts
2 tbsp pepitas
2 tbsp freshly chopped mint
1 tbsp freshly chopped parsley

Place the barley, quinoa and water in a medium pan. Bring to the boil, then cover and simmer for 30 minutes or until tender. Drain well. • Meanwhile, scoop out the flesh of the eggplants, leaving a 1cm (½in) shell. Sprinkle the shell with a little salt and turn upside down on kitchen paper to drain off the bitter juices. Dice the eggplant flesh. • Preheat oven to 180°C (350°F). Deseed and dice 2 of the tomatoes. Cut off the tops of the remaining 4 tomatoes and scoop out their seeds, leaving a shell, set aside. • Heat the olive oil in a large frying pan over a medium-low heat. Add the onion and celery, cook stirring occasionally for 5 minutes or until soft. Add the garlic, oregano and zucchini, cook stirring for 1 minute more. Increase the heat to medium-high, add the diced eggplant and zucchini and cook stirring for 2–3 minutes or until light golden. • Add the drained barley, quinoa, diced tomato, pepitas, pine nuts, mint and parsley. Season to taste with sea salt and freshly ground black pepper. • Rinse the eggplant shells out and pat dry. Fill the eggplants, tomatoes, capsicums with the stuffing, place on a lightly oiled baking tray and roast for 30 minutes or until vegetables are soft and golden brown.

Per Serving

Energy: 1538kJ (368Cal), Protein 12g, Fat 19g (saturated 2g), Carbohydrate 31g, Fibre 13g.

GLYCEMIC INDEX FOUNDATION NEWS

KICK START YOUR DAY WITH A SPEEDY BREAKFAST

As the first meal of the day, breakfast breaks the overnight fast, jump-starts your metabolism and generally gets you going, replenishing your vital reserves of carbohydrate, fat and protein, along with vitamins and minerals, to energise your day. Other breakfast benefits include better blood glucose and insulin sensitivity and better concentration when you get to your desk.

But mornings are a busy time for families with breakfast ending up as an afterthought as you head out the door. Speed really is of the essence in the morning for most of us. But quick doesn't have to mean grabbing a pastry at the local bakery or downing a coffee on the run. It can be healthy and low GI.

Other than grabbing a couple of pieces of fruit, the 'on-the-go' breakfast market is one of the fastest growing areas in the supermarket aisles to fuel and nourish our busy lives. There are a number of options to consider from high-fibre breakfast biscuits, milk-based ready-to-drink beverages formulated to boost their nutrient profile, low-fat yoghurt and muesli cups, or pre-cut fruits (yep convenience at its best). There are also single-portion breakfast cereals that you can keep at your desk for when you don't have time to eat at home – just add the milk.

But if you have a bit of time, say three minutes, porridge makes a great start to the day. We suggest you try the new low GI steel cut oats (GI= 53) from the folk at Uncle Toby's (Australia). They have managed to find a way of cutting down on the time it takes to cook their steel cut oats. I think these ones are well worth setting the alarm 5 minutes earlier.





For more breakfast ideas when you have a bit more time including a delicious yoghurt parfait see the recipe [section](#) on the GI Symbol website.



Dianna Crisp is the Communications and Partnership Manager at the Glycemic Index Foundation, a not-for-profit, health promotions charity. Email on info@gisymbol.com

For more on the GI Foundation go to www.gisymbol.com, like us on [Facebook](#) or follow us on [Twitter](#)

THE UNIVERSITY OF SYDNEY

In this section we will be covering all you need to know about GI Testing, the partnership with the Glycemic Index Foundation and their initiatives including the GI Symbol Program and CSIRO Total Wellbeing Diet. We have also included links to The Boden Institute at the University of Sydney for any readers who are based in Sydney and are interested in taking part in clinical trials.



GLYCEMIC INDEX TESTING

The Sydney University GI Research Service (SUGiRS) has provided a reliable commercial GI testing service for over 20 years. Food samples are tested in healthy volunteers according to international standardised methods. Testing of foods for their glycemic index, insulin index, satiety response, and other metabolic parameters can be assessed simultaneously. SUGiRS also works with companies to help them develop new low GI products or help lower the GI of existing products. Other analyses such as in vitro GI testing and siacic acid measurement are available.

- Principal researchers/consultants: Professor Jennie Brand-Miller, SUGiRS Manager Fiona Atkinson, PhD.
- Email: sugirs.manager@sydney.edu.au

BODEN INSTITUTE UNIVERSITY OF SYDNEY CLINICAL TRIALS

The Boden Institute, a joint initiative of the Faculties of Health Sciences, Medicine, and Science at the University of Sydney, regularly recruits participants for a range of clinical trials. If you live in the Sydney (Australia) metropolitan area and would like to find out about participating in clinical research, please visit:

- Website: <http://sydney.edu.au/medicine/research/units/boden/clinical-trials.php>.
- Email: boden@sydney.edu.au
- Telephone: (02) 8627 0101

GLYCEMIC INDEX FOUNDATION

The Glycemic Index Foundation (GIF), a not-for-profit health promotion charity supported by the University of Sydney and JDRF (Australia), provides a range of health education materials and tools. Key programs include the GI Symbol program, *GI News* and the CSIRO Total Wellbeing Diet.





THE GI SYMBOL PROGRAM

This certified symbol identifies foods that have been GI tested following the international standardised method. Manufacturers pay the GI Foundation a licence fee to use the symbol on their products and this income is channelled back to education and research. To earn certification, foods must be a good source of carbohydrate and meet a host of other nutrient criteria including total carbohydrate (to limit glycemic load), kilojoules (calories), total and saturated fat, sodium (salt), and when appropriate, dietary fibre and calcium. You can download the Product Eligibility and Nutrient Criteria [here](#).

If you are a food company or retailer and you have a product that you think may be eligible to carry the GI Symbol, we'd love to hear from you.

- **Email Dianna Crisp on info@gisymbol.com**
- Website: www.gisymbol.com
- [Facebook](#)
- [Twitter](#)

THE TOTAL WELLBEING DIET ONLINE

The GI Foundation has partnered with the CSIRO to provide the new, personalised 12-week on-line [Total Wellbeing Diet](#) weight-loss program that includes a wide range of low GI carbohydrate foods and meals. The program offers:

- 12 weeks of membership
- Over 1000 delicious and family-friendly recipes
- Online tools to help track your progress
- Weekly tutorials from CSIRO and Glycemic Index Foundation experts
- Step-by-step exercise programs
- Optional home delivery of your meal plan groceries with Woolworths online

For more information, visit: [Total Wellbeing Diet](#).



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