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GI News is published by the University of Sydney, School of Life and Environmental Sciences and the Charles Perkins Centre. Our goal is to help people choose the high-quality carbs that are digested at a rate that our bodies can comfortably accommodate and to share the latest scientific findings on food and diet with a particular focus on carbohydrates, dietary fibres, blood glucose and the glycemic index.

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FOOD FOR THOUGHT

ANYTHING TO DECLARE?

Conflict of interest is about much more than money says Dr Arya Sharma. In a blog post in Obesity Notes (a shortened version reprinted here with permission) he highlights the conflicts and potential biases nutrition researchers should not hesitate to acknowledge and disclose that John Ioannidis and John Trepanowski raise in JAMA.

First, the authors focus on nutrition research for good reasons. They say: “The totality of an individual’s diet has important effects on health, [while] most nutrients and foods individually have ambiguously tiny (or nonexistent) effects. Substantial reliance on observational data for which causal inference is notoriously difficult also limits the clarifying ability of nutrition science. When the data are not clear, opinions and conflicts of interest both financial and nonfinancial may influence research articles, editorials, guidelines, and laws. Therefore, disclosure policies are an important safeguard to help identify potential bias.”

While the potential for financial conflict in relationship to the food industry is well recognised and there are now well-established disclosure norms, other conflicts, of which there are many, are not routinely acknowledged, let alone, disclosed. For one, there are significant financial conflicts that have nothing to do with taking money from industry. For
example: “Many nutrition scientists and experts write books about their opinions and diet preferences. Given the interest of the public in this topic, books about nutrition, diets, and weight loss often appear on best-selling lists, even though most offer little to no evidence to support their frequently bold claims.”

Furthermore: “Financial conflicts of interest can also appear in unexpected places. For example, many not-for-profit nutrition initiatives require considerable donor money to stay solvent. Public visibility through the scientific literature and its reverberation through press releases, other media coverage, and social media magnification can be critical in this regard.”

But conflicts can get even more complicated when they start reflecting researchers’ own personal views and biases: “Allegiance bias and preference for favorite theories are prevalent across science and can affect any field of study. It is almost unavoidable that a scientist eventually will form some opinion that goes beyond the data, and they should. Scientists are likely to defend their work, their own discoveries, and the theories that they proposed or espoused.” While that is certainly true for any area of research, nutrition scientists face an additional challenge.

“Every day they must make numerous choices about what to eat while not allowing those choices to affect their research. Most of them also have been exposed to various dietary norms from their family, culture, or religion. These norms can sometimes be intertwined with core values, absolutist metaphysical beliefs, or both. For instance, could an author who is strongly adherent to some religion conclude that a diet-related prescription of his or her religion is so unhealthy as not to be worthwhile?”

The authors propose that nutrition researchers: “disclose their advocacy or activist work as well as their dietary preferences if any are relevant to what is presented and discussed in their articles. This is even more important for dietary preferences that are specific, circumscribed, and adhered to strongly. For example, readers should know if an author is strongly adherent to a vegan diet, the Atkins diet, a gluten-free diet, a high animal protein diet, specific brands of supplements, and so forth if these dietary choices are discussed in an article. The types of articles in which relevant disclosure should be expected include original research, reviews, and opinion pieces (such as editorials).” Although the article focuses on nutrition research, the authors acknowledge that similar biases may exist in other areas of research.

In my own experience, ideological biases (although well-intended) are pervasive through much of the research and publications on topics ranging from physical activity to public health, where I often see strong recommendations made based on evidence that is not even remotely as robust or rigorous as the evidence that comes from, say a large randomised clinical trials of a new prescription drug.

I certainly agree with the authors’ recommendation that: “As a general rule, if an author’s living example could be reasonably expected to influence how some readers perceive an article, disclosure should be encouraged. Authors who have strong beliefs and make highly
committed choices for diet or other behaviors should not hesitate to disclose them. Doing so may help everyone understand who is promoting what and why.”

Dr Arya M. Sharma, MD/PhD, FRCPC is Professor of Medicine & Chair in Obesity Research and Management at the University of Alberta, Edmonton, Canada. He is also the Clinical Co-Chair of the Alberta Health Services Obesity Program.

Read more:
- John Ioannidis and John Trepanowski: Disclosures in Nutrition Research: Why It Is Different.
- Dr Arya Sharma: Conflict Disclosures in Nutrition Research

WHAT’S NEW?
MEDITERRANEAN DIET AND DEPRESSION
A new trial from Deakin University shows improving diet quality helps treat major depression. “We’ve known for some time that there is a clear association between the quality of people’s diets and their risk for depression,” says Professor Felice Jacka, president of the International Society for Nutritional Psychiatry Research. “This is the case across countries, cultures and age groups, with healthy diets associated with reduced risk, and unhealthy diets associated with increased risk for depression. However, this is the first randomised controlled trial to directly test whether improving diet quality can actually treat clinical depression.”

The researchers recruited adults with a major depressive disorder and randomly assigned them to receive over a three-month period either social support (helpful for people with depression), or support from a clinical dietitian. The dietary group were given information and help to improve their diet especially on increasing vegetables, fruits, wholegrains, legumes, fish, lean red meats, olive oil and nuts, and reducing sweets, refined cereals, fried food, fast-food, processed meats and sugary drinks.

Participants in the dietary intervention group had a much greater reduction in their depressive symptoms over the three-month period, compared to those in the social support group. At the end of the trial, a third of those in the dietary support group met criteria for remission of major depression, compared to 8 percent of those in the social support group. “These results were not explained by changes in physical activity or body weight, but were closely related to the extent of dietary change,” says Jacka. “Those who adhered more closely to the dietary program experienced the greatest benefit to their depression symptoms. Importantly, depression also increases the risk of and, in turn, is also increased by common physical illnesses such as obesity, type 2 diabetes and heart disease. Successfully improving the quality of patients’ diets would also benefit these illnesses.”

Read more:
- A Mediterranean-style dietary Intervention supplemented with fish oil improves diet quality and mental health in people with depression: a randomized controlled trial (HELFIMED)
WHAT TO EAT WHEN YOU’RE EXPECTING?
Pregnant women tend to be overwhelmed with unsolicited advice on a whole range of topics including “eat this, don’t eat that” dietary advice. Recently, a slew of fad diet books promoting low carb diets has cranked up the confusion about what to eat when you are expecting several notches by suggesting that by “reducing the intake of carbohydrates, [people] could significantly improve their health and well-being”. To set the record straight, a pregnant woman absolutely needs nutrient-rich sources of carbohydrate (what we call “good carbs”) in the right amounts to ensure she is meeting her own nutritional needs as well as her baby’s.

Prof Clare Collins and University of Newcastle researchers tackled six questions they are endlessly asked about eating carbs during pregnancy in a recent piece in *The Conversation*. They are now recruiting pregnant women in Australia (12–22 weeks gestation) to take part in an online survey to learn more about their nutrition knowledge and eating habits. The survey takes about 20–25 minutes and participants go into the draw to win one of four $100 gift cards. You can find out more about the survey and sign up to take part HERE.

Read more:
- Six common questions about eating carbs during pregnancy answered

CHOOSING THE RIGHT DRINKS
Diabetes is a disease that develops when the body either stops producing the hormone insulin (type 1) or when the insulin it produces is not working properly (type 2). Insulin sensitivity describes how sensitive the body is to the effects of insulin, which is why it’s a key risk marker for diabetes. Someone who is insulin sensitive will require smaller amounts of insulin to lower blood glucose levels than someone who has low sensitivity to insulin.

A recent randomized controlled trial compared three everyday beverage choices on insulin sensitivity: semi-skimmed milk (recommended in dietary guidelines) with sugar-sweetened and “artificially” (intensely) sweetened soft drinks. Water was the non-calorie control. While the researchers hypothesized that drinking milk would improve insulin sensitivity and risk markers of cardiovascular disease in people who were overweight and obese, that’s not what they found. After 6 months’ intake of milk, or sugar-sweetened or intensely sweetened soft drinks, or water, there was no difference in risk markers for type 2 diabetes in the participants who remained weight stable throughout, suggesting the results were also independent of body weight.

Read more:
- Effect of high milk and sugar-sweetened and non-caloric soft drink intake on insulin sensitivity after 6 months in overweight and obese adults: a randomized controlled trial

FEED THE BIRDS
In February, we wrote about how a dog can prompt you to be more active, help calm jagged nerves, and reduce feelings of isolation and loneliness. Interacting with birds is also good for us, mentally and physically, and people like to do this is by feeding the birds in their garden, “a habit that’s natural and extremely popular around the world,” says Prof Daryl Jones.
[Bird feeding] is a really important topic, says Jones, “because of the potential impact we’re having. We’re genuinely changing the shape of the wildlife community that lives in the city with us. These things we must not shy away from – if you are hosting people coming to your place to feed, you don’t allow them to go away sick. You are really, really, careful about how nutrient wise the food is and how clean the plate is. The same goes for birds.

As for a diet of bread and sugar or honey, traditional lorikeet fare in Australia, “that’s not a good idea at all,” says Jones, “as it can become very easily tainted with bacteria and fungi and make the birds ill. Probably the most important suggestion for bird feeders is to avoid mince and bread altogether; the mince is sticky, fatty and has too little calcium; far better is dry or tinned pet food. And bread is terrible for any animal apart from humans.”

Commenting on backyard bird feeding, Grainne Cleary, a researcher at Deakin University who led the Australian bird feeding and watering study, says “we need to understand its effect and provide guidelines to those who regularly feed birds in their backyards or urban settings.” She adds that making healthy food for birds more available on supermarket shelves, rather than just an ordinary cockatiel mix, will drastically improve bird health.

**Darryl’s golden rules**

- **Cleanliness.** Sweep up any left overs and spray feeder dish with a mix of water and vinegar. Dry and then add new feed. Daily.
- **Provide a snack. Not a meal.** A little bit of healthy, appropriate food goes a long, long, way.
- **Never feed birds away from your home.** Feeding bread to the ducks and swans at the park is a definite no-no.
- **Enjoy** – because really, you’re feeding the birds for yourself, not for their benefit.

**Read more:**
- [Australian Bird Feeding and Watering Study](https://www.birdresearch.org.au)
- [Urban Bird Feeding: Connecting People with Nature](https://www.urbangardens.org.au)
- [To feed or not to feed](https://birdsaustralia.org.au)
- [Bird Feeding Takes Wing in U.S., With Summer Meals, Designer Seed](https://birdfeeding.com)
- Darryl Jones: [The Birds at My Table. Why We Feed Wild Birds and Why It Matters](https://birdresearch.org.au) (publishing March 2018)

**PERSPECTIVES: DR ALAN BARCLAY**

**SOCIAL DRINKING**

Many factors influence what, when, and how much we drink, including taste, cultural background, religious beliefs, budget, health, and social occasion ... Drinking lubricates most social functions. It’s one of life’s pleasures. So, let’s look at some of the more popular options.

**Water** Plain water is the best drink to quench your thirst: it is the most refreshing, provides zero kilojoules, plus a few minerals. However, it doesn’t seem to work so well socially – few people pop down to the pub for a couple of rounds of water.
Mineral water (with ice and a slice of lemon) is socially more acceptable. Plain mineral water (still or sparkling) contains relatively small amounts of sodium, potassium, magnesium and calcium. Fruit flavoured varieties are increasingly popular and available in sugar sweetened or intensely sweetened (“diet”) varieties. Sugar sweetened versions provide around 400kJ (100 calories) and 24g of carbohydrate (sugars) per cup (250ml); intensely sweetened varieties provide some 12kJ (3 calories) and 0.5g of carbohydrate (sugars) per cup. If you are watching your weight or blood glucose levels, plain or intensely sweetened options are your best options.

**Tea/coffee** A cuppa with family or friends is a popular social activity in most parts of the world. Black tea or coffee provides very little energy (around 13kJ or 3 calories) or carbohydrate (less than 1g) per cup. Adding milk or sugar increases both of course, with a cup of unsweetened white tea or coffee providing about 75kJ (18 calories) and around 2g of carbohydrate; and a cup of sweetened (2 level teaspoons of sugar) white tea or coffee about 235kJ (55 calories) and around 10g of carbohydrate – enough to raise blood glucose levels in most people with diabetes if the sugar is sucrose (GI=65).

However, if you sweeten your tea or coffee with an intense sweetener like aspartame, saccharin, sucralose or stevia, you don’t appreciably increase its energy or carbohydrate content, and so it won’t adversely affect blood glucose levels or body weight.

**Low joule/calorie or “diet” soft drinks** Unlike water, tea or coffee, these soft drinks probably shouldn’t be consumed daily, but they are still good choices when socialising as an alternative to alcohol. Carbonated beverages have a low pH (they are acidic), and in theory, frequent consumption may increase the risk of developing tooth decay which is a serious health issue for many people. However, they have no effect on blood glucose levels and provide very few kilojoules (around 5kJ or 1 calorie per cup). There is good evidence that substituting regular soft drinks with diet varieties will help people to lose weight.

**Fruit juices and fruit drinks** People enjoy these soft options at social gatherings. They are a source of calories, vitamin C, dietary fibre and carbohydrate. On average, they provide approximately 400kJ (95 calories) per cup, and are an important source of vitamin C providing on average 113mg per cup, which is more than twice the RDI (45mg per day). Most fruit juice contains a small amount of dietary fibre, but higher fibre varieties are becoming increasingly common.

Fruit juices and drinks have a low pH and are a source of fermentable carbohydrate for cariogenic bacteria. Frequent consumption may therefore increase the risk of developing tooth decay. On average, fruit juices and drinks provide 22g of carbohydrate per cup. All fruit juices made from low GI fruit and most fruit drinks have a low GI, however a 250ml serve of most varieties has a medium glycemic load.

**Sugar sweetened soft drinks** Save these for special occasions. Like fruit juices and drinks, they have a low pH and are a source of fermentable carbohydrate for cariogenic bacteria, and consumption is associated with increased risk of tooth decay. On average, a small glass (250ml) of sugar sweetened soft drink provides around 440kJ, 27g of carbohydrate (around
2 exchanges), and most varieties have a medium glycemic index, and a medium–high glycemic load, and consequently they will raise blood glucose levels in people with diabetes.

**Hard drinks** For many people, social occasions include the enjoyment of alcoholic beverages in moderation. We have discussed them in detail in previous issues of GI News (See “Cheers” in Read More).

**The bottom line** Plain water is unquestionably the best option for quenching thirst, but it’s rarely the first choice when drinking socially with family, friends and colleagues. There’s an increasingly large variety of beverages out there so choose wisely for your health and enjoyment.

**Read more:**
- Does low-energy sweetener consumption affect energy intake and body weight? A systematic review, including meta-analyses, of the evidence from human and animal studies.
- Cheers
- 1 Australian measuring cup = 250mL

Alan Barclay PhD is a consultant dietitian. He worked for Diabetes Australia (NSW) 1998–2014. He is co-author of over 30 scientific publications, and author/co-author of The Good Carbs Cookbook and Reversing Diabetes (Murdoch Books), The Low GI Diet: Managing Type 2 Diabetes (Hachette Australia) and The Ultimate Guide to Sugars and Sweeteners (The Experiment Publishing, New York).

**Contact:** You can follow him on Twitter.

**KEEPING IT GREEN – EATING FOR BODY AND PLANET**

In this series we explore how you can reduce your ecological impact through your food choices. We’ll help you do your bit for the environment, one mouthful at a time.

**MEAT-LESS**

**Meat-less movement**
‘Meatless Monday’ is not new. It was started by the US government during World War 1 to reduce consumption of key foods to win the war (interestingly they also had ‘wheatless Wednesday’). It was revived as a health awareness campaign in 2003 to address excessive meat intake in the USA. Since then it has gone from strength to strength. People are seeing the environmental benefits of eating meat-free (or less meat) and not just on Mondays. Eating less meat is a growing global movement. According to Google Trends, interest in ‘vegetarian recipes’ has more than doubled over the past 5 years worldwide. And for those not quite ready to quit meat completely there is now a new category of eaters called ‘flexitarians’ who eat mostly vegetarian foods but have the occasional meaty meal.
The true cost of meat

There are some costs that are not included in the ticket price of food – the costs to the environment. According to the IPCC, not only are more resources required to produce livestock compared to plant foods, but their manure produces greenhouse gases too - an environmental double whammy. In countries where there are more cattle and sheep, these animals were the greatest agricultural contributor of greenhouse gases.

What can we do?

There is no doubt meat is nutritious, including red meat. Red meat is a great source of protein, iron and vitamin B₁₂. However, some of us eat more than we need. To minimise your environmental impact, you need to eat ‘just enough’ meat to meet (pardon the pun) your nutritional requirements. For example, the Australian Dietary Guidelines recommended up to 455g cooked lean red meat per week. Ordering a 500g steak at a restaurant is a week’s worth of red meat on its own. Cooking 500g of raw red meat at a meal is enough for a family of 4. If this doesn’t seem enough, add some plant protein like legumes and plenty of vegetables and some wholegrains to fill the plate.

Enjoy variety

Meat is part of the ‘meat and alternatives’ food group that includes red meat, white meat, fish, eggs and plant-based alternatives like pulses, legumes, nuts and seeds. Aim for 2-3 ‘serves’ of a variety of options from this group per day, where one serve is: 65g of cooked red meat (100g raw); 80g cooked poultry (100g raw); 100g cooked fish (115g raw); 2 eggs; 1 cup (150g) cooked legumes (lentils, chickpeas, black beans); 170g tofu; or 30g of nuts or seeds.

Eating just enough meat, in a nutshell

- Make meat a side player rather than the main event – aim for ¼ of the plate as meat, half the plate as vegetables, and a quarter as grains (or starchy vegetable).
- Vary your meat choices - smaller animals such as poultry and (sustainable) fish have a smaller footprint. And don’t forget eggs – they offer perfect protein at a smaller environmental cost.
- Replace some of your meat with plant proteins: try adding lentils to your spaghetti Bolognese, burgers, meatloaf or casseroles; or chickpeas or tofu and nuts to curries, soups and salads.

Thanks to Rachel Ananin aka TheSeasonalDietitian.com for her assistance with this article.
In this series we explore how you can reduce your ecological impact through your food choices. We’ll help you do your bit for the environment, one mouthful at a time. **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. **Contact:** You can follow her on [Twitter](#), [Facebook](#), [Pinterest](#), [Instagram](#) or check out her [website](#).

**GOOD CARBS FOOD FACTS A TO Z**

**BEANS**

Beans are packed with good things for good health including slow-digesting carbs, fibre (including the sticky ones that lower cholesterol), vitamins and minerals. But what makes them really stand out from the plant food crowd is their protein – typically 7–10 grams per half cup cooked dried beans. Picture: Roasted Beetroot and White Bean Salad from *The Low GI Vegetarian Cookbook* (Hachette Australia)

Renowned for farts and jokes, the main culprits in beans are the large indigestible sugars (raffinose, stachyose and verbascose) which zip through the digestive system and arrive in the large bowel intact where the resident healthy bacteria enthusiastically ferment them and feast. That embarrassing gas is a natural outcome. Eating small amounts regularly helps your body acclimatize. And rinsing beans several times before soaking and cooking helps wash them away (the indigestible sugars are water soluble).

Our word is “bean” and the Roman’s was “faba” – but they actually have a common ancestor, the Indo-European *bhabh* or *bhabha* which means “swollen” or “swelling”. Whoever had naming rights was spot on – beans are generous providers, swelling up in the cooking pot so that one cup of dried beans gives us two or three cups to serve. It’s no wonder they have made themselves at home in kitchens around the world in classic dishes, family favourites and vegetarian fare. Not only do they bulk things out, they thicken, add texture and colour, absorb flavours, make great partners, and are nourishing, frugal extenders making a little go a very long way.
**Good Carbs Food Facts**  
**Cannellini beans, cooked**

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**Glycemic index** 31  
**Gluten free**  
**Serving size** – ½ cup (100g/3½oz)

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<tr>
<td>– Cholesterol</td>
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**Ingredients:** Cannellini beans  

Source: The Good Carbs Cookbook

**IN THE GI NEWS KITCHEN**  
**STICKS, SEEDS, PODS & LEAVES**

Kate contributed the recipes to Ian Hemphill’s best-selling *Spice and Herb Bible*. You will find more of her recipes on the [Herbies spices website](https://www.herbies.com). Or you can follow her on Instagram (@herbieskitchen).

Kate uses Herbies spices and blends in her cooking, but you can substitute with what you have on hand in your pantry.
BLACK LIME & BEAN SALAD
This quick salad is wonderfully enhanced by the zing of black lime powder. It makes a perfect packed lunch that will keep you going all afternoon. Prep: 5 mins Cook time: 5 mins
Serves: 4

2 x 400g (14oz) cans of 3-bean mix, drained
1 x 400g (14oz) can of unsweetened corn kernels, drained
15 green beans, trimmed and cut into 3cm/1½in pieces (or 1 cup defrosted frozen green beans)
1 avocado, cut into 2cm/¾in cubes
2 tbsp olive oil
1 tbsp lime juice
3 tsp Herbie's Spices Black Lime Powder
½ cup coriander leaves, roughly chopped

If using fresh beans, blanch for 2 minutes in boiling water, then drain and add to the serving bowl with 3-bean mix and corn kernels. • Whisk together olive oil, lime juice and black lime powder. • Stir dressing through salad with avocado and coriander and serve.

Per serve
2000kJ/480 calories; 17g protein; 20g fat (includes 3.5g saturated fat; saturated : unsaturated fat ratio 0.21); 47g available carbs (includes 9g sugars and 38g starches); 17g fibre; 815mg sodium; 840mg potassium; sodium : potassium ratio 0.97

CHRISSY FREER’S FOOD WITH ADDED LIFE
As a qualified nutritionist, Chrissy’s philosophy is simple: limit the amount of processed food in your diet and focus on whole foods. “By returning to eating whole foods, that is foods in their most natural state, we allow our bodies to benefit from all the available nutrients that food can provide.” Steer clear of food fads and miracle cures, if it sounds too good to be true then it probably is!

SALMON WITH WHITE BEAN MASH
This delicious meal will be on the table in 25 minutes. It’s rich in the good omega-3 fats and cholesterol-fighting legumes. Recipe and photo (Steve Brown) courtesy www.taste.com.au. Serves 4.

1 tbsp olive oil
2 garlic cloves, crushed
1 tsp ground cumin
1 tsp finely grated lemon rind
2 x 400g (14oz) cans cannellini beans, rinsed, drained
1 tbsp fresh lemon juice
1 cup fresh continental parsley leaves
1 small red onion, halved, thinly sliced
1 tbsp baby capers, rinsed, drained
olive oil spray
4 (about 125g/4oz each) skinless salmon fillets
steamed green round beans, to serve

Heat the oil in a medium saucepan over medium heat. Add the garlic, cumin and lemon rind and cook, stirring, for 30 seconds or until aromatic. Add the cannellini beans and lemon juice, and cook for 2 minutes. Use a fork to coarsely crush. Set aside and cover to keep warm. • Combine the parsley, onion and capers in a small bowl. • Heat a large non-stick frying pan over medium-high heat. Spray with oil. Cook the salmon for 3-4 minutes each side for medium or until cooked to your liking. • Divide the bean mixture among serving plates. Top with the salmon and the parsley mixture. Serve with green beans.

Per serve
2250kJ/ 540 calories; 41g protein; 25g fat (includes 5g saturated fat; saturated : unsaturated fat ratio 0.25); 27g available carbs (includes 6g sugars and 21g starches); 16g fibre; 690mg sodium; 1300mg potassium; sodium : potassium ratio 0.53

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