Glycemic Index and the GI Foundation

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Outline

- The Glycemic Index Foundation
- Measuring the Glycemic Index (GI) of food
- GI, GL and health
- The GI Symbol Program
- Putting GI into practice

Glycemic Index Foundation

- A **not-for-profit** health promotion charity. Founded in 2001.

- **World leader** in putting GI research into practice. **Mission** to assist food suppliers in providing, and consumers in selecting, nutritionally healthy foods using the Glycemic Index

- **Committed** to an improvement in public health by raising the **awareness** and **understanding** of the health benefits of low GI diets

- **Surplus funds** spent on health promotion linked to GI, work to uncover lower GI carbohydrates, and in scientific research into the health benefits of low GI diets

Measuring the Glycemic Index of food

GI Methodology

- The GI of a food is determined by a standardized *in vivo* testing protocol
- Australian Standard: Glycemic Index of foods (AS 4694) published in 2007
  - Details the method for determining the GI of a food – testing requirements
- The Australian Standard lead to the development of an International Standard: ISO/FDIS 26642 in 2010
  - Developed by a range of experts within the field
  - Improves reproducibility and reliability of published data

ISO 26642: Determination of GI

The standard covers the following protocol areas:

- Ethical approval
- Subject characteristics (inclusion & exclusion criteria)
- Reference food and test foods
  - Available carbohydrate content
  - Portion size
- Administration of a test session
- Blood collection methods
- Analysis of results
- Test report

GI Methodology: Carbohydrate

- Equal available carbohydrate portions of the reference food and the test food: 50 grams or 25 grams

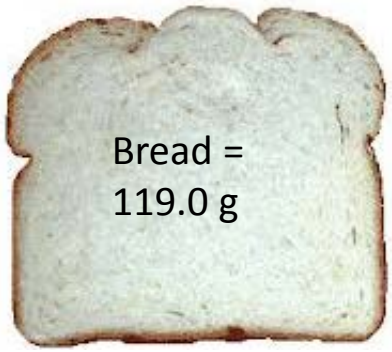
- Determination of the available carbohydrate content of a food is crucial for accurate testing
  - Direct vs indirect measurement of available carbohydrate
  - Unavailable carbohydrates (resistant starch, fibre, sugar alcohols etc)

- Carbohydrate that is not digested/absorbed can’t raise blood glucose so it should be excluded from the available carbohydrate

Reference & Test foods

- Reference food (=100)
  - Glucose
  - White bread

Glu = 50 g in
250 ml water



- Reference food tested at least 3 times by each participant

- Test food
  - Prepared according to manufacturer's instructions
  - Prepared fresh on the morning of a test session
  - Foods tested without added ingredients, eg milk, salt

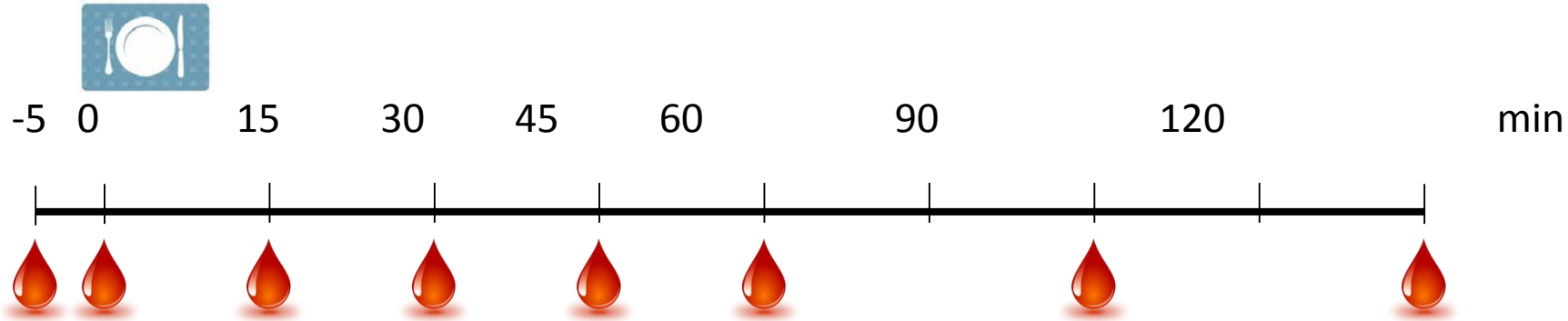
Participants & Test Instructions

- 10 participants to determine a GI value
- Participants should be:
  - Healthy with normal glucose tolerance
  - Healthy weight (18 – 25 kg/m^2)
  - Aged 18 – 65 years
  - No medications that affect glucose metabolism

- Instructions for participants
  - No legumes or alcohol 12 hr before a test session
  - Evening meal including a high carbohydrate food
  - No vigorous physical activity 24 hr before a test session
  - Regular sleep patterns

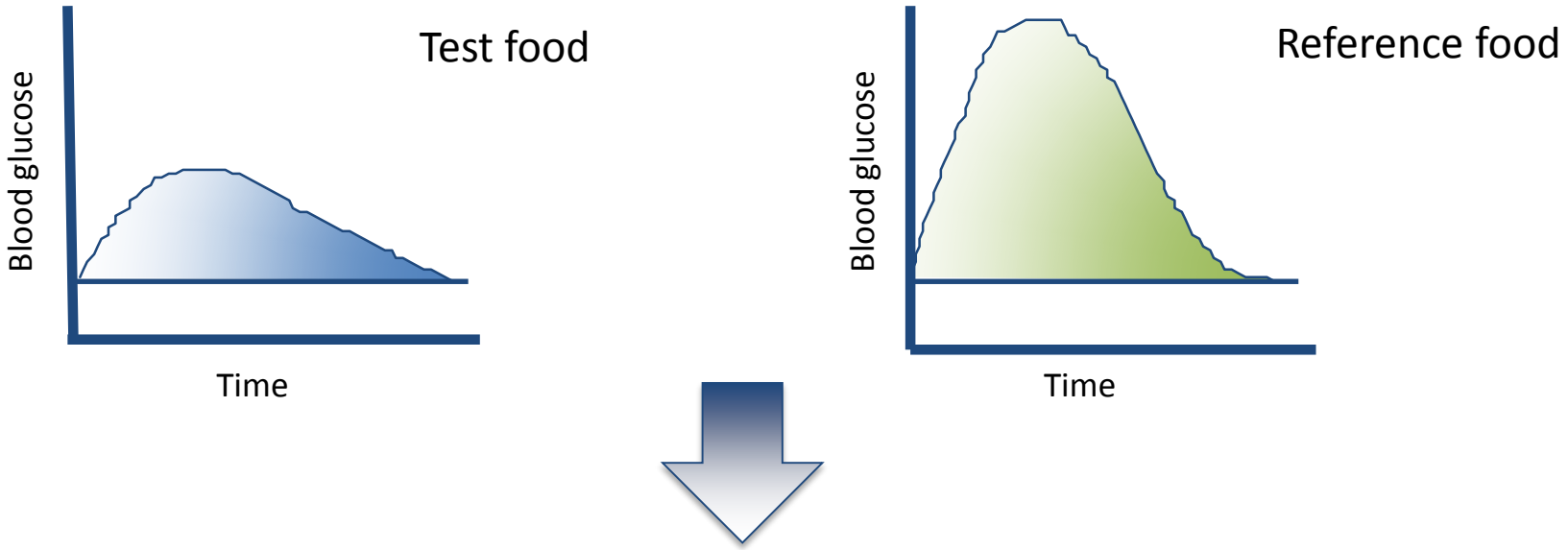
Test Procedure

- Participants arrive fasted between 6:30 – 8:30 am
- Capillary blood samples collected at regular intervals



How is a GI value calculated?

- Incremental area under the blood glucose curve (iAUC) is determined using the trapezoid rule, ie area below fasting is ignored



$$\mathbf{GI} = \frac{\text{Test food iAUC}^{120\text{ min}}}{\text{Ave Reference food iAUC}^{120\text{ min}}} \times 100$$

One GI value is determined by 640 individual data points

Glycemic Index (GI): Ranking

Individual food portion[1]:

Low	55 or less
Moderate	56 - 69
High	70+

Whole day[2]:

Low	45 or less
Moderate	46-59
High	60+

1. Australian Standard. Glycemic Index of Foods AS4694-2007. Standards Australia. 2007.
2. Brand-Miller, Nutrition & Dietetics 2009; 66: 136–137

GI of sugars and sugary foods[3]

Maltose	105
Glucose/dextrose	100
Sucrose	65
Lactose	46
Fructose	19
Fruits (except melons)	40s
Milk	30s
Yoghurt	30s

3. Atkinson et al. Diabetes Care. 2008; 31(12):2281-3

GI of starchy foods[3]

Barley	33
Legumes/beans	30’s
Pastas	40’s
“Specialty” breads	40’s
Oats	60’s
Rice	64 (47-98)
Potatoes	77
Wholemeal and white bread	70-75
Crisp breads	80s

3. Atkinson et al. Diabetes Care. 2008; 31(12):2281-3

Glycemic load (GL)

- a function of a food's glycemic index and its total available carbohydrate content and defined as:

Glycemic Load = GI (%) x Carbohydrate (g)

- Using an apple as an example:

GI value = 38%; Carbohydrate per serve =15 g

GL = 0.38 x 15 = 6

The GL of a typical apple is 6

Glycemic Load : Ranking

Individual food portion[4]:

Low	0-10
Moderate	11-19
High	20+

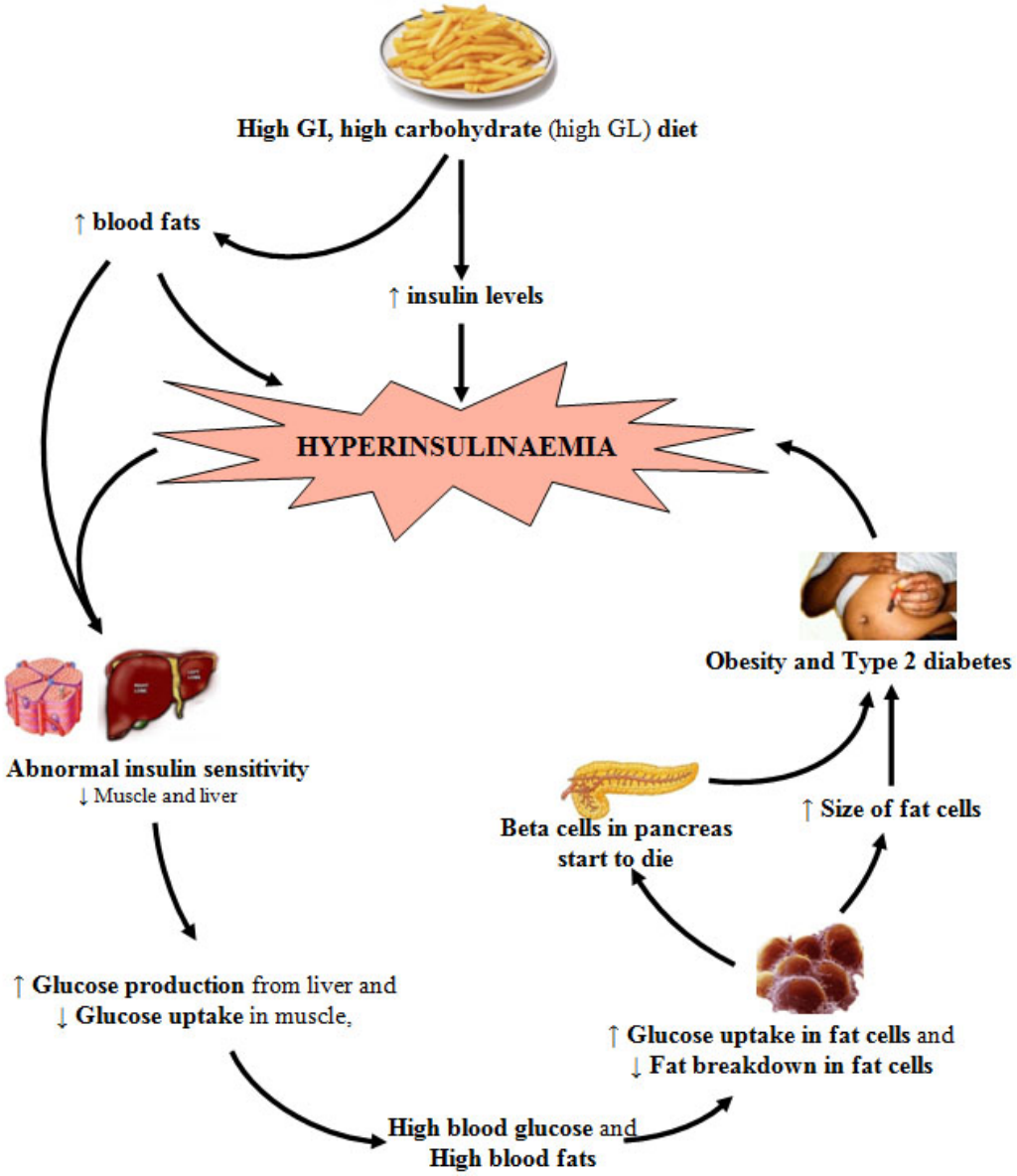
Whole day[5]:

Low	< 100 g 8,700 kJ/d diet

4. Brand-Miller JC, Holt SHA, and Petocz P. Glycemic load values:2002. Am J Clin Nutr. 2003; 77 (1): 993-5.
5. Livesey et al, AJCN. 2013.

GI, GL and health

High GI/GL diets and human physiology[6]

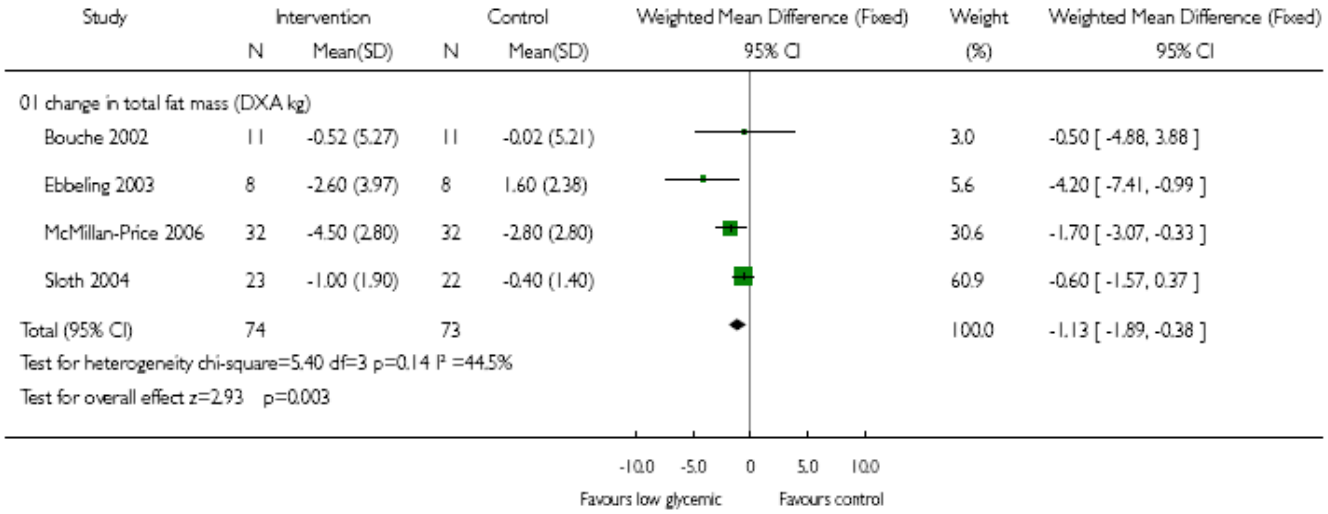


6. Barclay, A. PhD thesis. December, 2007.

GI and overweight and obesity

Cochrane review and meta-analysis of low GI diets in overweight/obesity[7]

- decreases in body mass of 1.1 kg
- total fat mass of 1.1 kg,
- body mass index of 1.3 kg/m^2
- significantly greater in participants receiving low GI compared to standard low fat diets

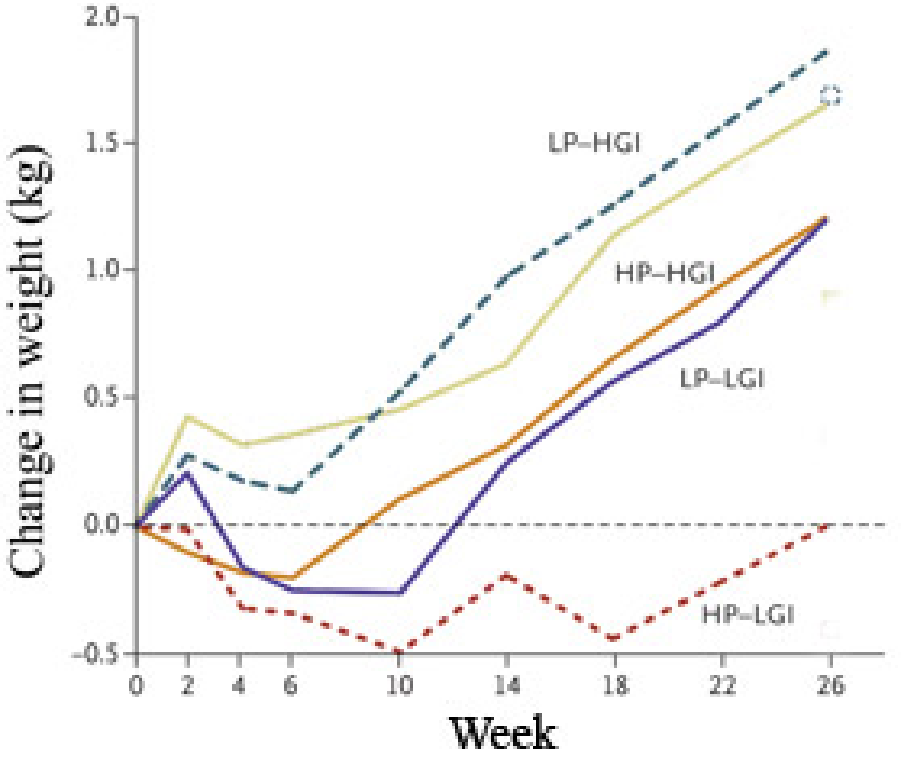


7. Thomas et al. The Cochrane Library 2007, Issue 3.

Comparison of 5 weight maintenance diets[8]

Body weight changes over 26 wks in adults (n = 773) after 11 kg wt loss

HP (21.7% of kJs), LGI (56.5)(total carbs = 44% of kJs; total kJs = 7,400 kJ) diet lost 0.38 kg, all others gained weight



8. Larsen et al. N Engl J Med 2010;363:2102-13.

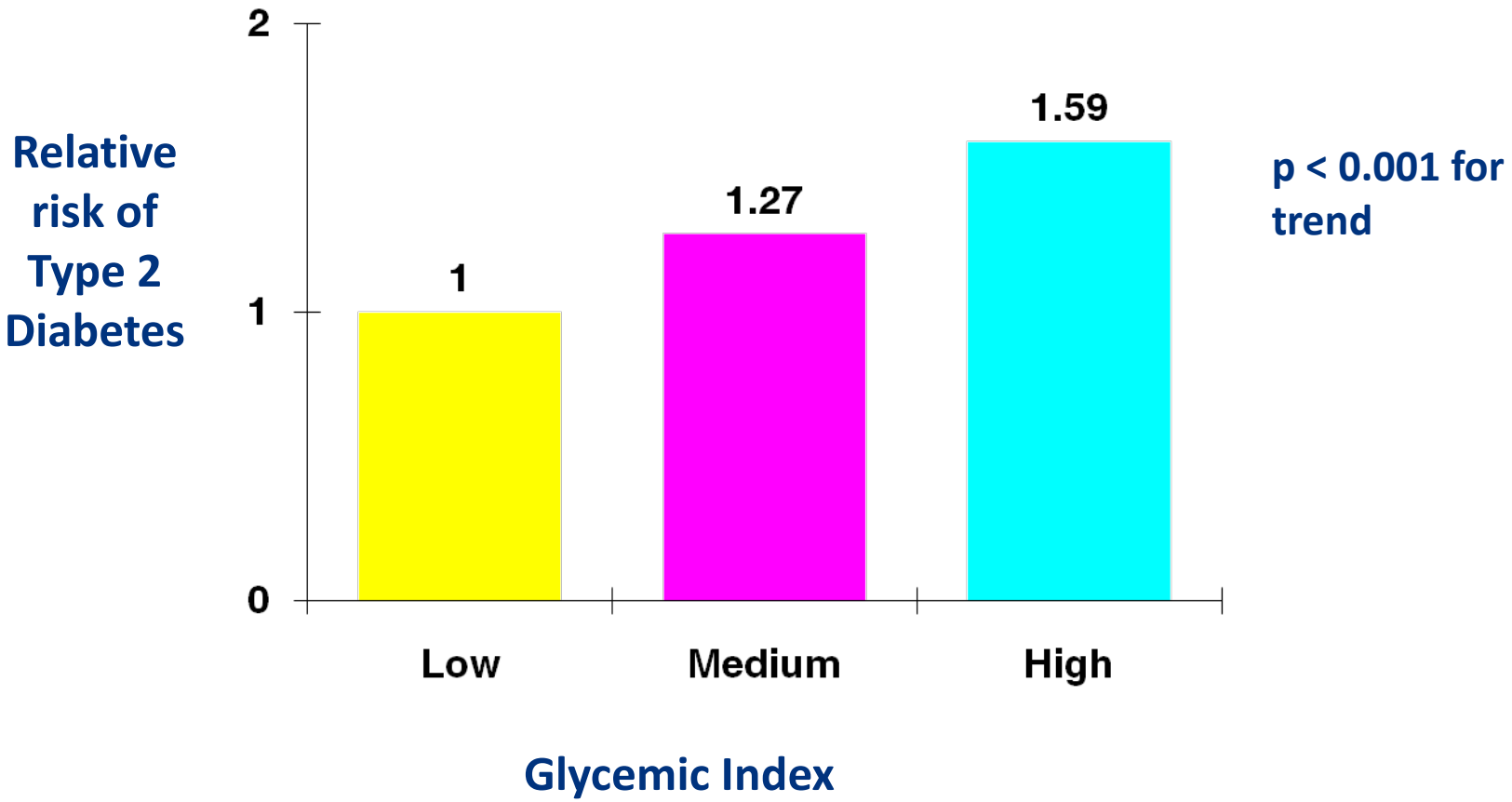
GI and risk of diabetes

Low GI diets and Type 2 diabetes

Glycemic Index, glycemic load, and dietary fibre intake and incidence of type 2 diabetes in younger and middle-aged women[9]

Design	Cohort study
Participants	91,249 US Women, aged 24-44
Results	High GI diet increase risk by 59%
Diet	**Carb intake 224 g/day (50% E)**
	Fibre intake 18.5 g/day
Median GI	49

9. Schulze et al Am J Clin Nutr, 2004; 80:348-356



9. Schulze et al Am J Clin Nutr, 2004; 80:348-356

Systematic review and meta-analysis of low GL diets and type 2 diabetes[10]

- All evidence available from prospective cohort studies
- People consuming a low GL diet (<95g/8,400kJ (2000 calorie)/day)
- Decrease risk of developing type 2 diabetes by 45%
- This can be achieved by either:

  - consuming 200 g carbohydrates (~40% kJs) a day with a GI of 50, or

  -250 g carbohydrates (~50% kJs) a day with a GI of 40

10. Livesey, et al. AJCN 2013.

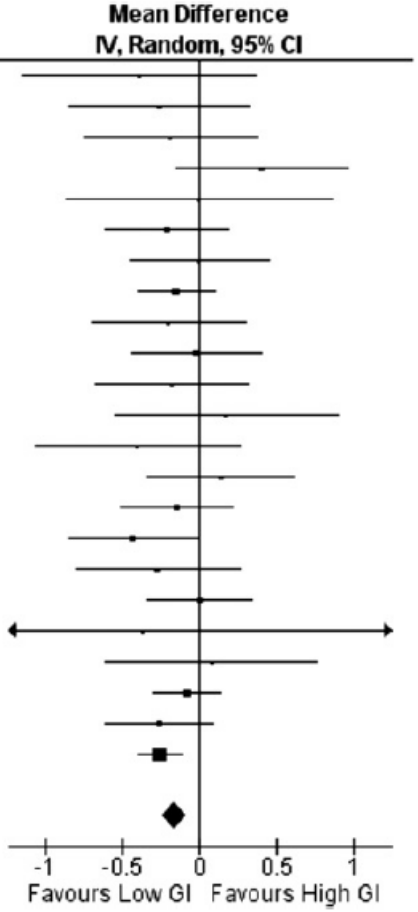
GI and cardiovascular disease

Systematic review and meta-analysis of GI and LDL cholesterol[11]

28 RCTs comparing low- with high GI diets over at least 4 weeks
1,272 participants in total

Study	Low Glycemic Index Diet Mean	SD	Total	High Glycemic Index Diet Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI
Bouche (2002)	3.35	1.06	11	3.74	0.7	11	1.0%	-0.39 [-1.14, 0.36]
Brand (1991)	2.72	0.76	16	2.98	0.92	16	1.7%	-0.26 [-0.84, 0.32]
DeRougemont (2007)	2.71	0.9	19	2.9	0.86	19	1.9%	-0.19 [-0.75, 0.37]
Frost (1994)	3.7	1	25	3.3	1.02	26	1.9%	0.40 [-0.15, 0.95]
Frost (1996)	4.3	1.2	15	4.3	1.2	15	0.8%	0.00 [-0.86, 0.86]
Frost (2004)	2.79	0.71	26	3	0.81	29	3.7%	-0.21 [-0.61, 0.19]
Heilbronn (2002)	2.91	0.73	24	2.91	0.78	21	3.0%	0.00 [-0.44, 0.44]
Jenkins (2008)	2.47	0.82	80	2.62	0.79	75	9.2%	-0.15 [-0.40, 0.10]
Jimenez-Cruz (2003)	3.2	0.64	14	3.4	0.71	14	2.4%	-0.20 [-0.70, 0.30]
Marsh (2010)	2.7	0.73	29	2.72	0.73	20	3.4%	-0.02 [-0.44, 0.40]
Philippou (2008)	3.24	0.9	23	3.42	0.73	19	2.4%	-0.18 [-0.67, 0.31]
Philippou (2009)	3.4	0.75	22	3.23	1.33	16	1.1%	0.17 [-0.55, 0.89]
Rizkalla (2004)	2.63	0.9	12	3.03	0.73	12	1.4%	-0.40 [-1.06, 0.26]
Shikany (2009)	2.94	0.77	24	2.8	0.9	24	2.6%	0.14 [-0.33, 0.61]
Sichieri (2007)	3.26	0.9	61	3.41	0.99	46	4.4%	-0.15 [-0.51, 0.21]
Sloth (2004)	2.25	0.72	23	2.68	0.7	22	3.4%	-0.43 [-0.84, -0.02]
Tsihlias (2000)	2.85	0.77	25	3.12	1.02	21	2.1%	-0.27 [-0.80, 0.26]
Venn (2010)	3.1	0.9	45	3.1	0.7	43	5.2%	0.00 [-0.34, 0.34]
Wolever (1992)	4.04	1.66	6	4.41	2.13	6	0.1%	-0.37 [-2.53, 1.79]
Wolever (2003)	3.29	0.64	13	3.21	1	11	1.3%	0.08 [-0.61, 0.77]
Wolever (2008)	2.92	0.37	38	3	0.55	36	12.8%	-0.08 [-0.29, 0.13]
Yusof (2009)	2.67	0.79	51	2.93	0.98	49	4.8%	-0.26 [-0.61, 0.09]
Zhang (2010)	2.95	0.41	64	3.21	0.41	64	29.2%	-0.26 [-0.40, -0.12]
Total (95% CI)			**666**			**615**	**100.0%**	**-0.16 [-0.24, -0.08]**

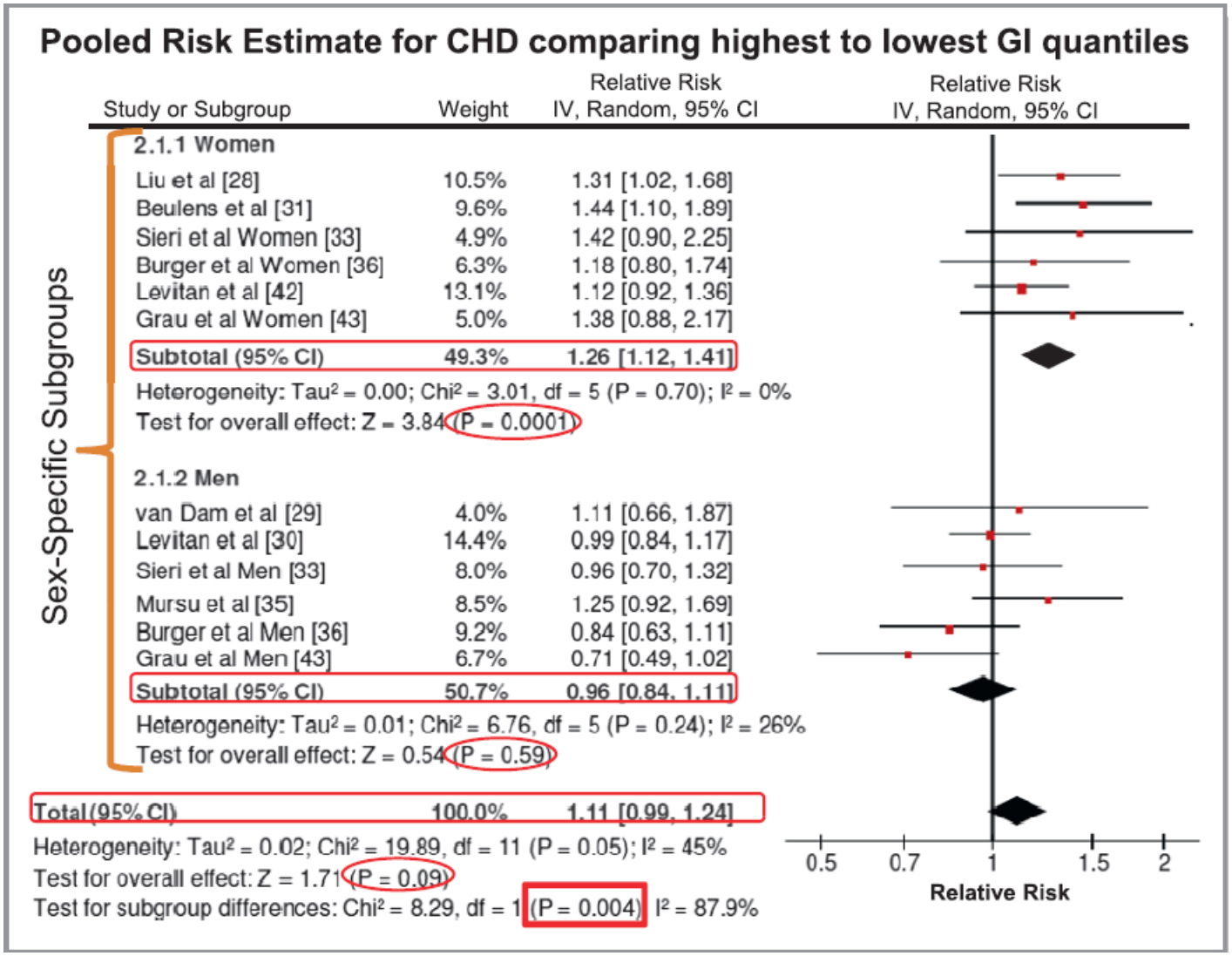
Heterogeneity: Tau² = 0.00; Chi² = 14.35, df = 22 (P = 0.89); I² = 0%
Test for overall effect: Z = 4.11 (P < 0.0001)



11. Goff et al. Nutrition, Metabolism & Cardiovascular Diseases (2013).

Systematic review and meta-analysis GI and risk of heart disease[12]

10 studies. 230,000 participants



12. Mirrahimi et al. JAHA, 2012.

The GI Symbol Program

GI Symbol Program

- Products must be tested by approved laboratory using the International Standard (ISO 26642 2010) procedure.
- Products must contain ≥ 7.5g of Carbohydrate per serve

- Products must meet strict nutrition criteria:
  - Energy
  - Carbohydrate
  - Total Fat, Sat and Unsat Fat
  - Sodium
  - Dietary Fibre &
  - Calcium

Example nutrient criteria

Main meals (e.g. Pasta dishes, casseroles with rice/potato, curry and rice, stir-fry meals and rice, TV dinners, etc...)

Energy:	2,900 kJ per serve, or less
Carbohydrate:	60 g per serve, or less, or glycemic load 30 g/% per serve, or less
Protein:	10 g per serve, or more
Fat:	28 g per serve, or less
Saturated fat:	9 g per serve, or less, or a sat:unsaturated fat ratio of 1:2
Dietary fibre:	3 g per serve or more
Sodium:	900 mg per serve, or less

~150 products, iconic brands across categories

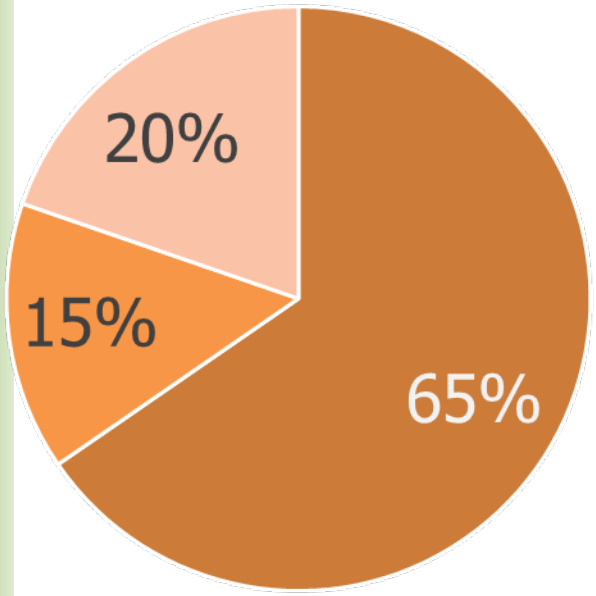
Awareness of GI & the GI Symbol

- Awareness of the **Glycemic Index (GI)** has been above 75% since 2005 with interest in GI still high
  - Over **84% of Australians have an interest** in finding out more about how GI of foods can improve their overall health.
  - Higher amongst people with Type 2 Diabetes (T2D)
- **30% of Australians are aware of the GI Symbol**
- **Highest awareness of GI Symbol amongst**:
  - People with Type 2 Diabetes (43%)
  - Females
  - 25-34 year age group, young families

lonergan research

Lonergan Research 2014: Random Sample of Main Grocery Buyers 18+ years; 1235 respondents (Type 2 Diabetes n=273)

GI Symbol is by far the most credible symbol when choosing a low GI product



Neither

	%
Gender	
Male	59%
Female	71%
Segments	
Type 2 Diabetes	74%
Sustained Energy	68%
Healthier Weight	67%

lonergan research

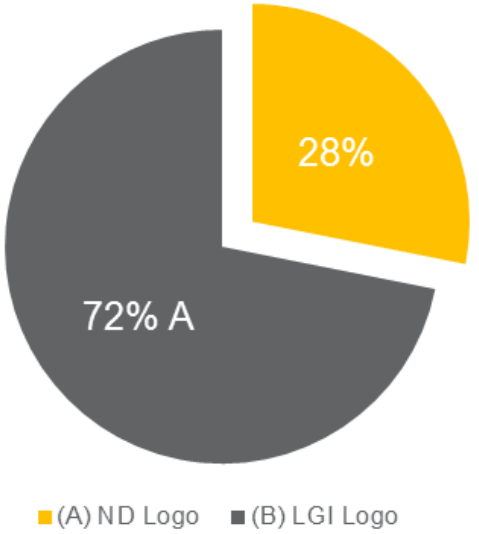
Lonergan Research:2014 Random Sample of Main Grocery Buyers 18+ years; 1235 respondents

Independent research

'Familiar, trusted and readily understood by consumers in terms of actual benefits – a known entity'*

colmar brunton.

Logo Preference
Total respondents (N=512)



Again – logically – Low GI the outtake.

Much more positive commentary AND plenty of extrapolations about the actual benefits of Low GI – such as longer energy release, fuller for longer, good at breakfast / start of day, generally healthier / better for you.

This logo is more familiar, trusted and readily understood by consumers.

The Low GI logo was significantly preferred vs. the Nutritionally Designed logo with almost 3 out of 4 respondents choosing it.

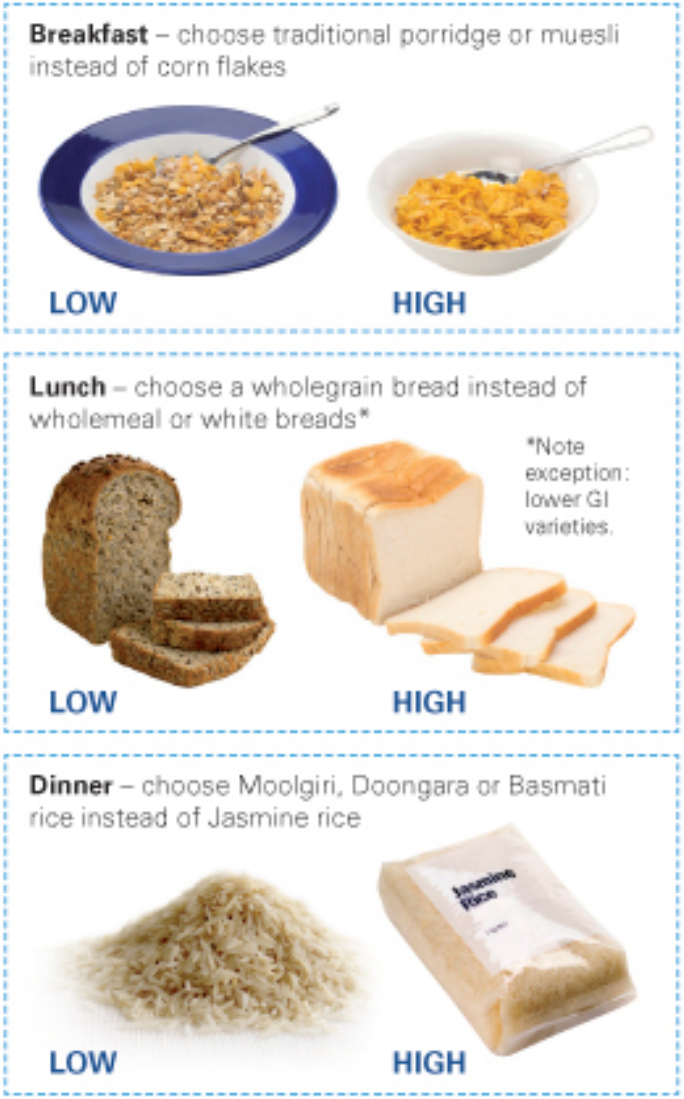
* Confidential research conducted for GI Symbol client

Putting GI into practice

Look for products with the GI Symbol

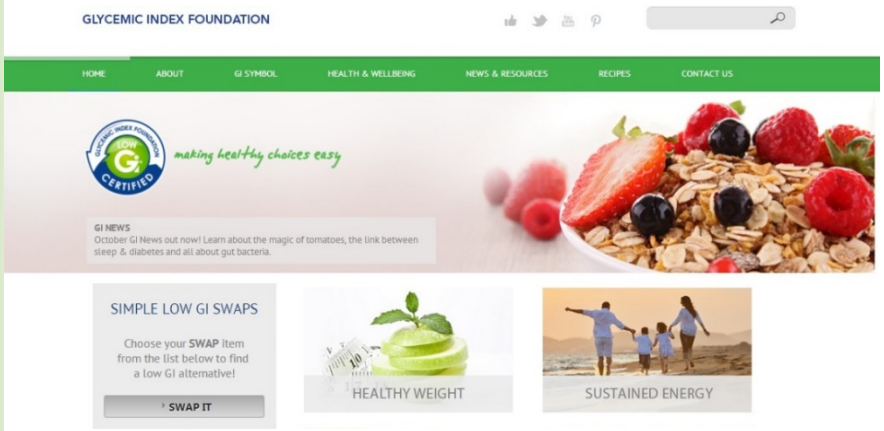
Use the “swap it, don’t stop it” approach to choose the right type of carbohydrate

- Simply swap low GI carbs for high GI carbs within each food group or category
- This principle will lower the dietary GL



Get some top tips from GI Foundation

Website gisymbol.com



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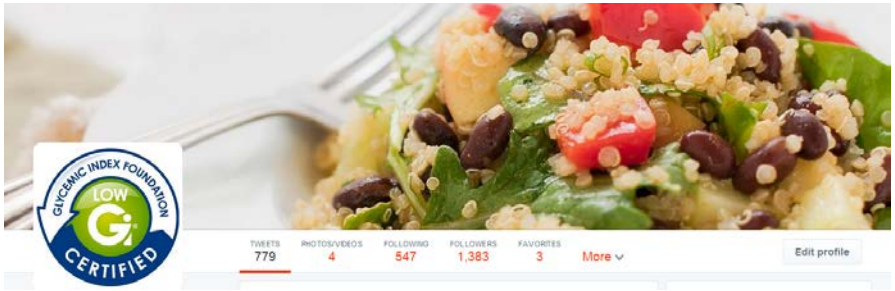


If you want more information…

Healthcare Professional brochures


GLYCEMIC INDEX & DIABETES

making healthy choices easy

A newsletter from the Glycemic Index Foundation explaining the benefits of low GI and the GI Symbol Program September 2012

The GI was originally developed to improve carbohydrate exchanges so that they more accurately reflected the true physiological effect of foods on postprandial glycemia. It challenged a long-standing belief that sugars should be avoided in favour of starches. Evidence in support of low GI diets in diabetes management is substantial and it continues to grow.

Evidence supporting the potential of healthy low GI diets to prevent type 2 diabetes and reduce the risk of cardiovascular disease is also increasing rapidly.

Specific benefits of a low GI diet in diabetes

Improved glycemic control

A healthy low GI diet will improve glycemic control compared to a high GI diet or a measured carbohydrate exchange diet. A systematic review and meta-analysis[1] including 12 randomised controlled trials lasting between 4 wks and 12 months (3 trials in type 1, 8 trials in type 2 and 1 trial in both) showed that low GI diets compared to high GI diets reduce markers of glycemic control. HbA1c levels were reduced by 0.4% points (95% CI -0.7 to -0.2; p<0.001) similar to the reduction seen with oral hypoglycaemic agents.

Improved insulin sensitivity and reduced insulin resistance

Low GI diets increase insulin sensitivity in type 2 diabetes[2] and have the added benefit of reducing hyperinsulinaemia, thereby preserving ß-cell function. In contrast, high GI and GL diets are associated with an increased risk of insulin resistance[3] and the metabolic syndrome[4].

Reduced risk of vascular disease

Randomised controlled trials (RCTs) show that a low GI diet is associated with improved lipid profiles, specifically higher serum HDL-C and reduced LDL-C[5]. Low GI diets also significantly reduce concentrations of the inflammatory marker, C-reactive protein (CRP)[6].

Weight loss

Low GI diets also lead to greater weight loss compared to other healthy diets[7]. In a weight loss study where patients with type 2 diabetes were randomised to a low fat, high carbohydrate vegan diet, or a conventional diet following American Dietetic Association recommendations, the dietary GI was associated with weight loss[8]. GI, which was lowest in the vegan group, predicted changes in weight, where every percentage point decrease in GI lead to a 0.2kg weight reduction. Furthermore, weight loss itself predicted reductions in HbA1c. These improvements were independent of changes in total carbohydrate and fibre.

GLYCEMIC INDEX

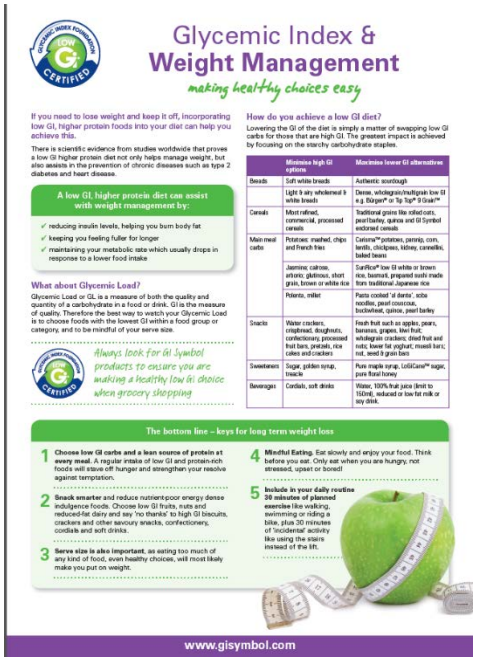
The Glycemic Index (GI) is a relative ranking of carbohydrate in foods according to how they affect blood glucose levels. Foods with a low GI (GI ≤ 55) release glucose into the bloodstream at a slow sustainable rate, and have proven benefits for health.

A low GI diet is not a fad diet but a way of eating that is sustainable in the long term and is backed by over 30 years of scientific evidence. This includes facilitating the management of diabetes, weight loss and weight loss maintenance and reducing the risk of developing type 2 diabetes, diabetes complications and other chronic lifestyle diseases.

To make healthy choices easier we developed the GI Symbol Program, a not-for-profit health initiative backed by the University of Sydney and Juvenile Diabetes Research Foundation. The GI Symbol is a powerful tool for quickly and reliably making healthy food choices when grocery shopping. It's your guarantee that the GI value stated near the nutrition information label is accurate and that the food meets strict nutritional criteria.

The free monthly GI Newsletter informs you of the most recent findings from around the world (Register at http://ginews.blogspot.com)

Consumer brochures


Glycemic Index & Weight Management

making healthy choices easy

If you need to lose weight and keep it off, incorporating low GI, higher protein foods into your diet can help you achieve this.

There is scientific evidence from studies worldwide that proves a low GI higher protein diet not only helps manage weight, but also assists in the prevention of chronic diseases such as type 2 diabetes and heart disease.

A low GI, higher protein diet can assist with weight management by:

- ✓ reducing insulin levels, helping you burn body fat
- ✓ keeping you feeling fuller for longer
- ✓ maintaining your metabolic rate which usually drops in response to a lower food intake

What about Glycemic Load?

Glycemic Load or GL is a measure of both the quality and quantity of a carbohydrate in a food or drink. GI is the measure of quality. Therefore the best way to watch your Glycemic Load is to choose foods with the lowest GI within a food group or category, and to be mindful of your serve size.

Always look for GI Symbol products to ensure you are making a healthy low GI choice when grocery shopping

How do you achieve a low GI diet?

Lowering the GI of the diet is simply a matter of swapping low GI carbs for those that are high GI. The greatest impact is achieved by focusing on the starchy carbohydrate staples.

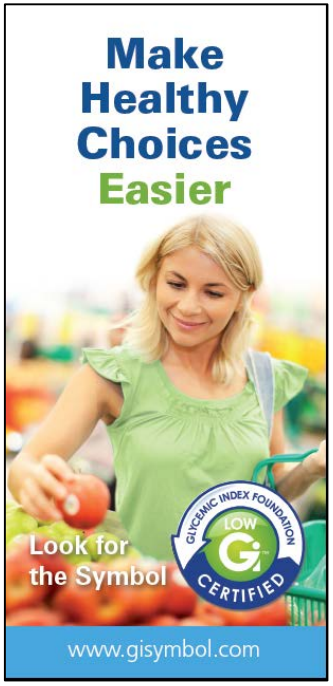
	Minimise high GI options	Maximise lower GI alternatives
Breads	Soft white breads	Authentic sourdough
	Light & airy wholemeal & white breads	Dense, wholegrain/multigrain low GI e.g. Burgen® or Tip Top® 8 Grain™
Cereals	Most refined, commercial, processed cereals	Traditional grains like rolled oats, pearl barley, quinoa and GI Symbol endorsed cereals
Main meal carbs	Potatoes: mashed, chips and French fries	Carisma™ potatoes, parsnip, corn, lentils, chickpeas, kidney, cannellini, baked beans
	Jasmine, calrose, arborio, glutinous, short grain, brown or white rice	Sunrice® low GI white or brown rice, basmati, prepared sushi made from traditional Japanese rice
	Polenta, millet	Pasta cooked 'al dente', soba noodles, pearl couscous, buckwheat, quinoa, pearl barley
Snacks	Water crackers, crispbread, doughnuts, confectionery, processed fruit bars, pretzels, rice cakes and crackers	Fresh fruit such as apples, pears, bananas, grapes, kiwi fruit, wholegrain crackers; dried fruit and nuts; lower fat yoghurt; muesli bars; nut, seed & grain bars
Sweeteners	Sugar, golden syrup, treacle	Pure maple syrup, LoliGane™ sugar, pure floral honey
Beverages	Cordials, soft drinks	Water, 100% fruit juice (limit to 150ml), reduced or low fat milk or soy drink.

The bottom line – keys for long term weight loss

1. **Choose low GI carbs and a lean source of protein at every meal.** A regular intake of low GI and protein-rich foods will stave off hunger and strengthen your resolve against temptation.
2. **Snack smarter** and reduce nutrient-poor energy dense indulgence foods. Choose low GI fruits, nuts and reduced-fat dairy and say 'no thanks' to high GI biscuits, crackers and other savoury snacks, confectionery, cordials and soft drinks.
3. **Serve size is also important,** as eating too much of any kind of food, even healthy choices, will most likely make you put on weight.
4. **Mindful Eating.** Eat slowly and enjoy your food. Think before you eat. Only eat when you are hungry, not stressed, upset or bored!
5. **Include in your daily routine 30 minutes of planned exercise** like walking, swimming or riding a bike, plus 30 minutes of 'incidental' activity like using the stairs instead of the lift.

www.gisymbol.com

Make Healthy Choices Easier flier calling consumers to action, and highlighting our program partners and products



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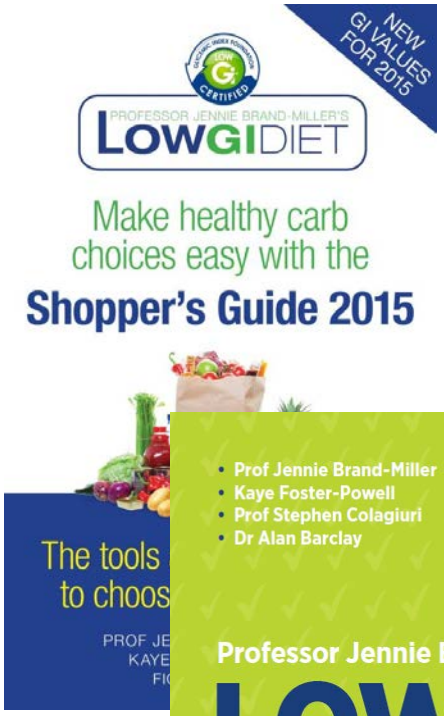
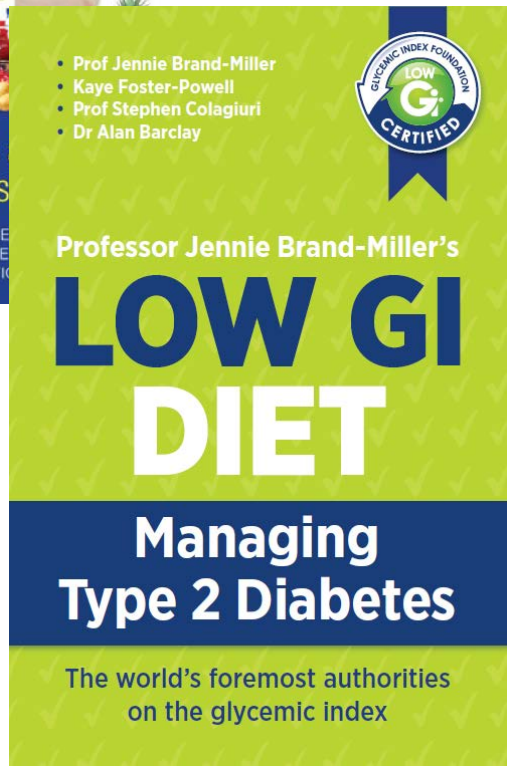
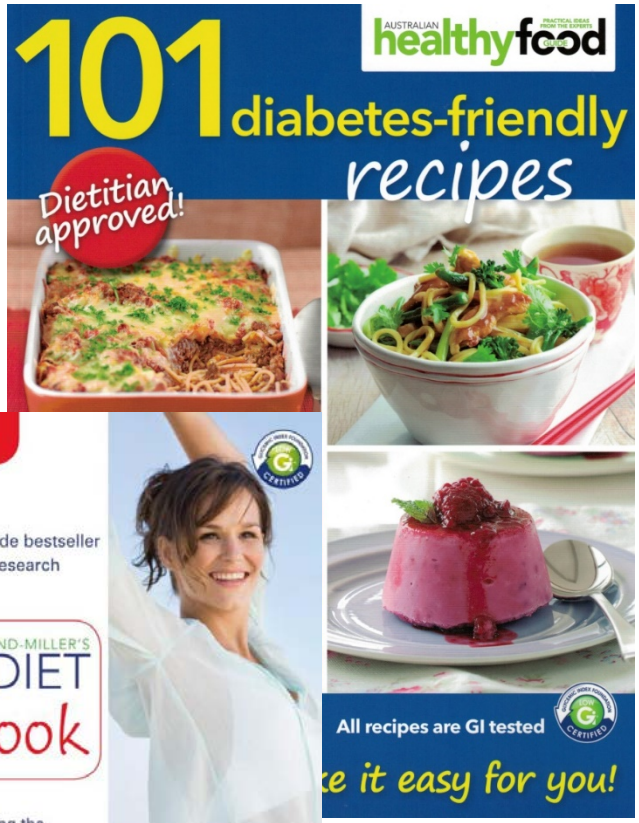
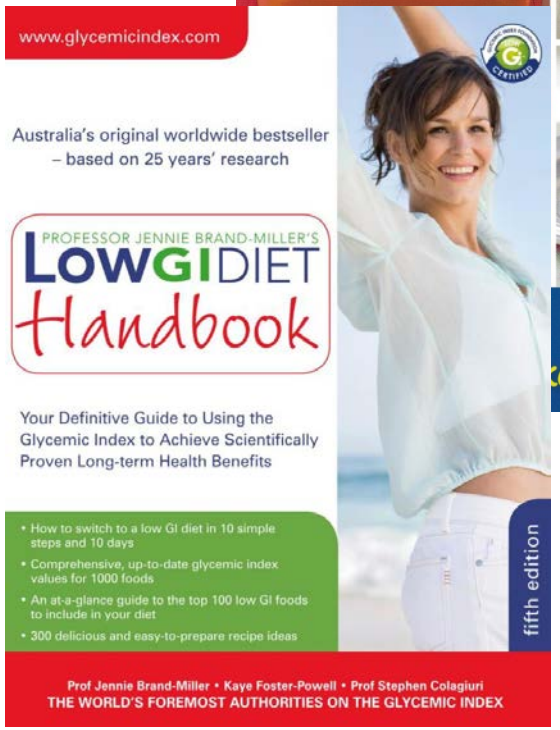








Sample menu (Vietnamese example)

Masters of Nutrition and Dietetic Project

University of Sydney, 2016

Wenshi Liu

- Construct healthy low GI and GL meal plans for 3 ethnic groups living in Australia that are at high risk of type 2 diabetes.
- Lebanese, Pacific Islander and **Vietnamese**.
- Through consultation with community members and health professionals construct 7 day meal plans that reflect typical eating patterns in Australia.
- Modify meal plans to lower the GI, GL and improve overall nutritional profile in line with dietary guidelines.

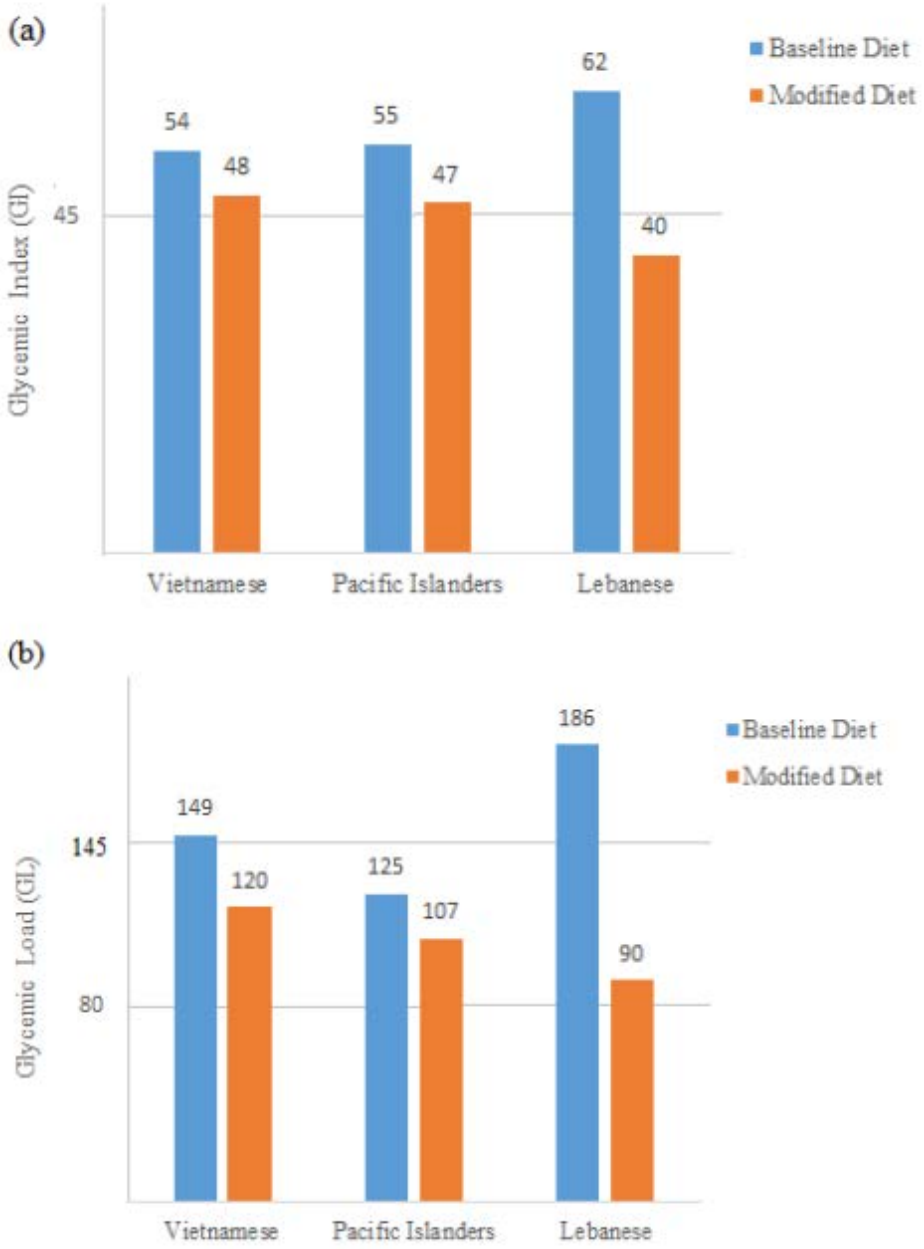
	Breakfast	Lunch	Dinner
Monday	Vietnamese Pork Baguette (Banh mi thit) Hot or Cold Tea	Stir Fry Water Spinach Pan fried Kingfish with Tomatoes Steamed White Rice Pennywort Juice	Can chua ca (Sweet and sour fish soup) Grilled Pork Tenderloin Boiled Kai Lan with Sesame Oil Steamed White Rice Dessert and Drinks: Avocado Smoothies or Fresh Fruit – 1 medium sized banana, and 1 medium sized apple or mandarin
Tuesday	Beef Noodle Soup (Pho bo) Iced Coffee (Ca phe sua da) or Green Tea	Mustard Greens and Tofu Broth Vietnamese grilled chicken thigh Steamed White Rice Hot or Cold Tea	Watercress and Tofu Broth Bitter Melon Egg Stir-Fry Braised pork with eggs (Thit kho) Steamed White Rice Dessert and Drinks: Mango Smoothie, or Fresh Fruit – 1 cup diced pineapple, and 1 cup diced papaya or mango
Wednesday	A Bowl of Breakfast Cereal Flakes with Soy Milk or Milk White Toasts with Jam	Stir-Fried Chicken and Fresh Noodles Hot or Cold Tea Three colour bean drink	Winter Melon and Shrimp Soup Caramelised Pork Ribs Stir Fry Water Spinach Steamed White Rice Dessert and Drinks: Pennywort Juice or Fresh Fruit – 1 cup diced Pineapple or canned mangosteen, and 1 medium sized mandarin

Food item	GL contributing to the diet	% of total dietary GL
Sugar	267.3	24.1
Rice, long-grain	263.4	23.7
Sweetened condensed milk	91.1	8.2
French stick, made from white flour	60.1	5.4
Rice noodles	59.5	5.4
Pennywort juice	48.5	4.4
Rice flour	43.3	3.9
Mangosteen, canned and drained	41.5	3.7
Sweet potatoes, white flesh	38.7	3.5
Breakfast cereals	19.9	1.8
Total	933.3	84.1

Medium to high GI food item	GI	% of total dietary GL	GI of alternatives
Sugar	65	Low GI Sugar	50
Milk, condensed	61	†	
French stick, made from white flour	57	Bread, from spelt flour	54
Rice flour	92	Stoneground whole wheat flour	52
Mangosteen, canned and drained	79	Mandarin, Apple	37, 38
Sweet potatoes, white flesh	75	Sweet potatoes, orange flesh	53
Breakfast cereal	71	Rolled oats	52
Glutinous rice	98	†	
Tapioca starch	71	Wholemeal rye flour	57
Pineapple	66	Δ	
Corn flour	72	Stoneground whole wheat flour	52
Papaya	56	Δ	

† food item with no culturally appropriate low GI alternatives;
Δ food items that are consumed occasionally.

	Breakfast	Lunch	Dinner
Monday	Vietnamese Pork Baguette (Banh mi thit) 1 Cup Hot or Cold Tea 1 Cup Low Fat Soy Milk (added vitamin A & calcium)	Stir Fry Water Spinach Pan fried Kingfish with Tomatoes Rice Mix 1 Cup Hot or Cold Tea or 1/2 Cup Pennywort Juice 1 Cup Low Fat Soy Milk (added vitamin A & calcium)	Sweet and sour fish soup (Can chua ca) Grilled Pork Tenderloin Boiled Kai Lan with Sesame Oil Rice Mix Dessert and Drinks: 1/2 Cup Avocado Smoothies and Fresh Fruit – 1 medium sized banana or 1 medium sized apple, and 1 medium sized mandarin
Tuesday	Beef Noodle Soup (Pho bo) Iced Coffee (Ca phe sua da) or Green Tea 1 Cup Low Fat Soy Milk (added vitamin A & calcium)	Watercress and Tofu Broth Vietnamese grilled chicken thigh Rice Mix Hot or Cold Tea	Watercress and Tofu Broth Bitter Melon Egg Stir-Fry Braised pork with eggs (Thit kho) Rice Mix Dessert and Drinks: Mango Smoothie, or Fresh Fruit – 1 cup pineapple or papaya, and 1 medium sized mango
Wednesday	1 Cup Quick Oats or 2 Slices Spelt Flour Toasts 1 Cup Low Fat Soy Milk (added vitamin A & calcium) 1 Individual Packet of Reduced Sugar Jam	Stir-Fried Chicken and Fresh Noodles 1/2 Cup Three colour bean drink 1 Cup Low Fat Soy Milk (added vitamin A & calcium) 1 Cup Diced Papaya	Winter Melon and Shrimp Soup Caramelised Pork Ribs Stir Fry Water Spinach Stir Fry Pumpkin Rice Mix Dessert and Drinks: 1/2 Cup Pennywort Juice and Fresh Fruit – 1 cup pineapple or 1 cup mangosteen, and 1 medium sized mandarin


(a)
Baseline Diet
Modified Diet
Glycemic Index (GI)
45
54
48
55
47
62
40
Vietnamese
Pacific Islanders
Lebanese
(b)
Baseline Diet
Modified Diet
Glycemic Load (GL)
145
80
149
120
125
107
186
90
Vietnamese
Pacific Islanders
Lebanese

Conclusions

- The Glycemic Index Foundation is a health promotion charity dedicated to lowering the GI of foods and diets.
- Measure the Glycemic Index of food using ISO 26642 2010.
- GI, GL help people manage weight and decrease their risk of type 2 diabetes and CVD.
- The GI Symbol Program helps make healthy low GI choices easy.
- Simply swap high GI foods with low GI alternatives.

Further information

www.gisymbol.com
www.glycemicindex.com
Twitter: @GiFoundation
Facebook: http://www.facebook.com/GlycemicIndex

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