

Glycemic Index- A new way of looking at carbohydrates

There has been a lot of talk these days about a new meal-planning tool called the Glycemic Index (GI). But there is also a lot of misunderstanding about the GI, which has actually been around for more than 20 years.

If you're like most people, you've probably never given your blood sugar a second thought unless you have diabetes. But doctors and researchers have discovered a shocking truth: If your blood sugar levels regularly soar and crash like a radio-controlled airplane, your body may sustain serious damage. And in the human case, most of that damage will occur on the inside, where you can't see it. The consequences, like low energy or weight gain can be bothersome – or they can be deadly!

It is a good idea to get to know and understand the Glycemic Index, because choosing foods with a low GI rating more often than choosing those with a high GI may help you to:

- Control your blood glucose levels
- Control your cholesterol levels
- Control your appetite
- Lower your risk of getting heart disease
- Lower your risk of getting type 2 diabetes

GI - the basics The Glycemic Index is a scale that ranks carbohydrate-rich foods by how much they raise blood glucose levels compared to glucose or white bread.

When you eat food that contains carbohydrates, the sugar (glucose) from the food breaks down during digestion and gives you energy. After you eat, your blood glucose level rises; the speed at which the food is able to increase your blood glucose level is called the “glycemic response.” This glycemic response is influenced by many factors, including how much food you eat, how much the food is processed and even how the food is prepared (for example, pasta that is cooked al dente – or firm – has a lower glycemic response than pasta that is overcooked).

A diet loaded with foods that send your blood sugar up high and down low can jack up your risk of heart disease by damaging your blood vessels and raising your cholesterol. It may even chip away at your memory and increase your risk of certain cancers. You may not notice a problem, but that doesn't mean it's not there. When you eat a meal that really bumps up your blood sugar, your body pumps out lots of insulin to bring it down. It also stops burning fat for fuel so it can use up the blood sugar instead. The result, a “spare tire” increased abdominal fat, the most dangerous place for it to accumulate.

Good carbs, better carbs

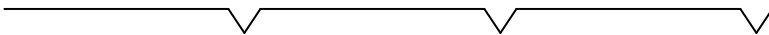
Canada's Food Guide to Healthy Eating recommends eating a diet with 50% of each day's calories coming from carbohydrates. All carbohydrates raise blood sugar levels. However, not all carbohydrates are the same.

The Glycemic Index (GI) ranks carbohydrate-rich foods according to their glycemic response. Foods that raise your blood glucose level quickly have a higher GI rating than foods that raise your blood glucose level more slowly. In general, the lower the rating the better the quality of carbohydrate.

Not only do low GI foods raise your blood glucose more slowly and to a less dramatic peak than higher GI foods, but most low GI foods are all-around healthier choices. Low GI foods are usually lower in calories and fat, while also being high in fibre, nutrients and antioxidants. Choosing low GI foods more often may help you increase levels of HDL (healthy) cholesterol in your blood and might help you control your appetite, as they tend to keep you feeling full, longer.



This diagram represents the rapid fluctuations of your blood sugar when high GI foods are eaten. Blood glucose levels go up rapidly and fall just as quickly. Within 20-30 minutes your blood glucose levels are low and you're hungry again.
Not healthy – low energy levels, fatigue, headaches, weight gain, etc!



This diagram represents the constant leveling of your blood sugar when low GI foods are eaten. Blood glucose levels go up to a healthy level and are sustained for 2-3 hours, at which time they will drop slightly below normal and you will then need to eat some more low GI foods to bring it back to normal.
Healthy – high energy levels, stamina, weight loss/maintenance!

So choose your carbohydrates wisely.

Try to choose low and medium GI foods more often than high GI foods. A GI of 55 or less ranks as low; a GI of 56 to 69 is medium, and a GI of 70 or more ranks as high.

Here are some tips to help you lower the Glycemic Index of your daily meals:

- Base your food choices primarily on overall nutrition – including vitamins, minerals and fibre. Don't dismiss healthy foods such as white potatoes just because they have a high GI. Their other nutritional benefits make them good choices.
- Try to choose at least one low GI food at each meal.

- If you choose a high GI food, combine it with a low GI food, for an overall medium GI meal. For example, half a bagel (high GI) with a bowl of chili (low GI), or corn flakes cereal (high GI) topped with a spoonful of All Bran (low GI) and some strawberries (low GI).
- Limit the amount of processed, refined starchy foods, as they tend to be low in fibre and other nutrients and have a higher GI.
- Try new foods that have a low GI. Experiment with beans, legumes and lentils by including them in dishes such as chili, soups and salads.
- Eat whole grain, pumpernickel and oat bran bread more often than white bread.
- Eat fresh fruit and vegetables. Fruits and vegetables have a low GI, so they break down into sugar slowly in your body. Canada's Food Guide recommends five to ten servings of fruits and vegetables every day. Enjoy a variety!
- Choose parboiled, brown or white rice more often than instant rice.
- Eat pasta, rice, yams, lima beans or baked potatoes more often than mashed, boiled or instant potatoes. Eating potatoes cold, as in a salad, reduces their GI (but go easy on the mayo dressing).
- Use vinaigrette instead of a creamy salad dressing. It's lower in fat, plus the acidity of the vinegar slows digestion, lowering the meal's GI.
- Add a protein source to lower the GI of any food (ie: cottage cheese on potatoes, peanut butter on a bagel).

**Remember that the Glycemic Index is just one part of healthy eating.
Don't forget to:**

- Eat at regular times
- Choose a variety of foods from all food groups
- Limit sugar and sweets
- Reduce the amount of fat you eat
- Include foods high in fibre
- Limit salt, alcohol and caffeine.
- Choose heart healthy fats such as canola and olive oil...Omega-3 too!

Glycemic Index Food List

(high [>70]; med [55-70]; low [<55])

baguette-95	dates,dried-103	rice cakes -82	Rice Krispies-82
rice pasta,brown-92	watermelon-72	pretzels- 81	Grapenut flakes- 80
instant rice-91	pineapple-66	jelly beans-80	Cornflakes-77
kaiser roll - 73	raisins-64	waffles- 76	Weetabix-77
bagel -72	apricots -57	doughnut- 76	Total -76
white bread -70	mangoes-56	soda crackers - 74	Puffed wheat-74
wholemeal bread -69	fruit cocktail-55	corn chips -72	Cheerios-74
rye flour bread 64	banana -53	mars bars-68	Shredded Wheat -69
macaroni cheese-64	kiwi fruit- 53	ryvita -67	Oatmeal-61
hamburger bun- 61	grapes- 52	wheat crackers -67	Mini Wheats (wholemeal)-57
pita bread-57	canned peach- 47	rye crisp bread -63	Museli-56
white rice -56	orange -43	power bar -57	Oatbran-55
brown rice- 55	peaches-42	popcorn -55	Porridge, non instant-49
sourdough bread - 52	plums-39	oatmeal cookies-55	All Bran-42
linguine-50	pear -36	*potato chips/crisps-54	Kashi cereals 40
multigrain bread- 48	apple -36	*chocolate -49	
converted rice -47	dried apricots- 30	banana cake-47	
bulgur-48	grapefruit-25	peanuts-14	
macaroni-45	cherries-22		
spaghetti, white -41			
ravioli, meat filled-39			
spaghetti, whole wheat-37			
spaghetti, protein enriched-27			
barley - 25			
quinoa - 39			
Cakes/biscuits	Potatoes, root crop	Vegetables	Legumes
Rice cakes-82	parsnips 97	sweet corn- 55	Baked Beans-48
Wafer biscuits 77	**baked potatoes-83	green peas-48	Chickpean,tinned-42
Doughnut -76	instant potatoes- 83	carrots,cooked-39	Haricot Beans-38
Waffles-76	chips- 75	green beans-15	Chick peas-33
Ryvita -67	mashed potatoes-73	peppers-15	Butter beans-31
Croissant -67	beetroot-64	spinach -15	Lentils-29
Shortbread -64	new potatoes- 57	tomatoes- 15	Kidney Beans-27
Muffin (unsweetened)-62	boiled potatoes- 56	artichoke -15	Soy Beans-18
Danish pastry -59	sweet potatoes-54	asparagus-15	
	yam-51	broccoli-15	
		cauliflower-15	
		celery -15	

		cucumber -15	
		lettuce -15	
Dairy	Sugars	Beverages	
*Ice cream-61	Maltose-105	Gatorade-78	
*Ice cream (low fat) 50	Glucose-100	Soft drinks,fanta-68	
Milk, semi-skimmed-34	Honey-73	Colas-65	
Chocolate milk- 34	Sucrose-65	Orange juice-57	
Fruit yogurt, low fat-33	Table sugar-65	Grapefruit juice-48	
Milk-Skim-32	Lactose-46	Pineapple juice -46	
Milk -Fat-free-32	Fructose-23	Apple Juice,unsweetened-41	
Soy Milk- 31		100% Pure, not from	
Milk, full fat -27		concentrate - 40	
Yogurt-low fat-14			
NOTES:			
<u>Legend:</u>			
*high in empty calories			
**very nutritious, low cal			

NOTES:

Choose the right type of carbohydrates

BY CHOOSING LOW GI FOODS, YOUR BLOOD SUGAR LEVELS ARE MAINTAINED WITHOUT UNNECESSARY PEAKS AND DROPS.

CHOOSE FOODS IN THIS LIST THAT ARE LESS THAN 55!

How to make a high GI food a med-low GI food:

1. add a protein source (fish, poultry, alternatives, dairy)
2. add vinegar, lemon juice (acid lowers the glycemic index)
3. add a low GI fruit or vegetable (see list)
4. add an unsaturated fat source (nuts, fish, flax seeds, omega-3 sources)

Contact your Employer's Edge Wellness Consultant for further information on choosing the right (Low Glycemic) carbohydrates for you OR e-mail us at info@employersedge.ca.

Everyone Can Eat More Fruits and Vegetables!

Do you think eating 5 - 10 servings of fruits and vegetables a day is a lot? It's really not. In fact, most of us only have to add 1 or 2 more servings to reach Health Canada's recommended minimum of 5 servings a day.

Fruits and vegetables come in a variety of shapes, sizes, colours and flavours and can be served in thousands of different ways, raw or cooked. With such versatility it's easy to include them with every meal and snack.

It starts at the grocery store. Pick up a variety of fresh, frozen, canned or dried fruits and vegetables and have them on hand to use throughout the day.

Breakfast

- Top your cereal, yogurt or pancakes with fruit – fresh, frozen, canned or dried.
- Make a yogurt sundae by layering fruit, cereal and yogurt in a tall glass.
- Sprinkle half a grapefruit with brown sugar and a touch of cinnamon and broil until golden.
- Add berries or other fruit to pancake batter. Grated carrot and zucchini work too.
- Top a toasted half bagel or English muffin with apple or pear slices, sprinkle with cinnamon or nutmeg and add a slice of low fat cheese. Broil until the cheese melts.
- Breakfast is *when* you eat, not *what* you eat. Try leftover pizza with lots of veggies, fruit or vegetable salads, vegetable soups or fruit crumbles.
- Try dipping strips of toast or waffles in applesauce or other fruit sauce. (Kids like this one!) Or use fruit as a substitute for syrup.

Snacks

- Always have fruits and veggies on hand. Keep them on the counter or in the fridge, washed and ready to go. When fruits and vegetables are in your line of sight, it's easy to choose healthy snacks.
- Vegetables and dip make a good snack. Make the dip with low fat yogurt or a low fat salad dressing. Try carrots, broccoli, cauliflower, mushrooms, pepper strips, zucchini strips and rutabaga.
- Make the vegetables into the dip. Salsa and guacamole are delicious!
- Sliced fruits and berries are also good for dipping. Try bananas, apples, pears, blueberries, strawberries, orange sections and melon cubes. A low fat flavored yogurt or low fat cream cheese makes a good dip.
- Microwave a potato for about 10 minutes. Add low fat sour cream and salsa. Or try sweet potato for a change. Serve with a bit of butter or margarine and cinnamon or nutmeg.
- Try a portable salad! Combine finely shredded cabbage, carrot and sunflower seeds or raisins with a little low fat yogurt or a low calorie dressing. Place in a pita, or on a large lettuce leaf or rice wrapper and roll it up to go!
- Cut an apple or pear in quarters or eighths. Spread one side of each slice with peanut butter, nut butter, butter or a cheese spread. Put two slices together like a sandwich.

Lunch

- Stuff your sandwiches with a variety of vegetables and fruit like tomatoes, cucumber and leaf lettuce.
- Try something new! Strips of roasted or raw bell peppers, shredded cabbage (or the packaged coleslaw in the produce section), shredded carrots or zucchini, thinly sliced onions, radishes, apples or pears all make good sandwich stuffers. To keep bread from getting soggy, pack the veggies separately and add just before eating.
- Try using mashed avocado or banana as a spread for the bread.
- Add sliced banana or applesauce to peanut butter sandwiches
- Try adding grated carrots, shredded spinach, onions, thinly sliced mushrooms or apple to a grilled cheese sandwich.
- Make it a habit to have a salad every day. Use a variety of greens such as spinach, romaine, endive or a combination. Add a variety of fruits and vegetables in season and top with a low fat dressing or vinaigrette.
- Add extra vegetables to soups and casseroles or microwave leftover vegetables and sprinkle with cheese for a light lunch.

Dinner

- Double up your servings. If you normally take one spoonful of broccoli, take two. Half a potato? Take a whole one. This will automatically add servings of the vegetables you normally eat.
- Add extra fresh or frozen vegetables to your spaghetti sauce, chili, lasagna, stew or casserole.
- Make pizza at home and add lots of veggies. Try zucchini, summer squash, mushrooms, onions, pepper strips, broccoli, cauliflower, onions, grated carrots, chopped spinach, arugula or pineapple. When ordering pizza ask for extra veggies and half the cheese.
- Add zest to vegetables by adding herbs, butter, a bit of brown sugar, grated cheese, bread or cornflake crumbs. Vegetables are naturally low in fat so you can afford to dress them up in moderation.
- Try fruit for dessert like berries sprinkled with balsamic vinegar and sugar; peaches, plums or apples sprinkled with cinnamon or nutmeg, or apricots with vanilla yogurt.
- Top cakes, puddings or ice cream with a variety of fruits.

Glycemic Index Log Sheet

Every gram of carbohydrate contains 4 calories.

Separate the carbohydrates you eat for each meal and snack into the appropriate columns.

Time: _____ : _____ : _____ : _____ : _____

Day	Breakfast		Morn. Snack		Lunch		Aft. Snack		Supper	
	High GI Food	Low GI Food	High GI Food	Low GI Food	High GI Food	Low GI Food	High GI Food	Low GI Food	High GI Food	Low GI Food
MON.										
TUES.										
WED.										
THURS.										
FRI.										
SAT.										
SUN.										