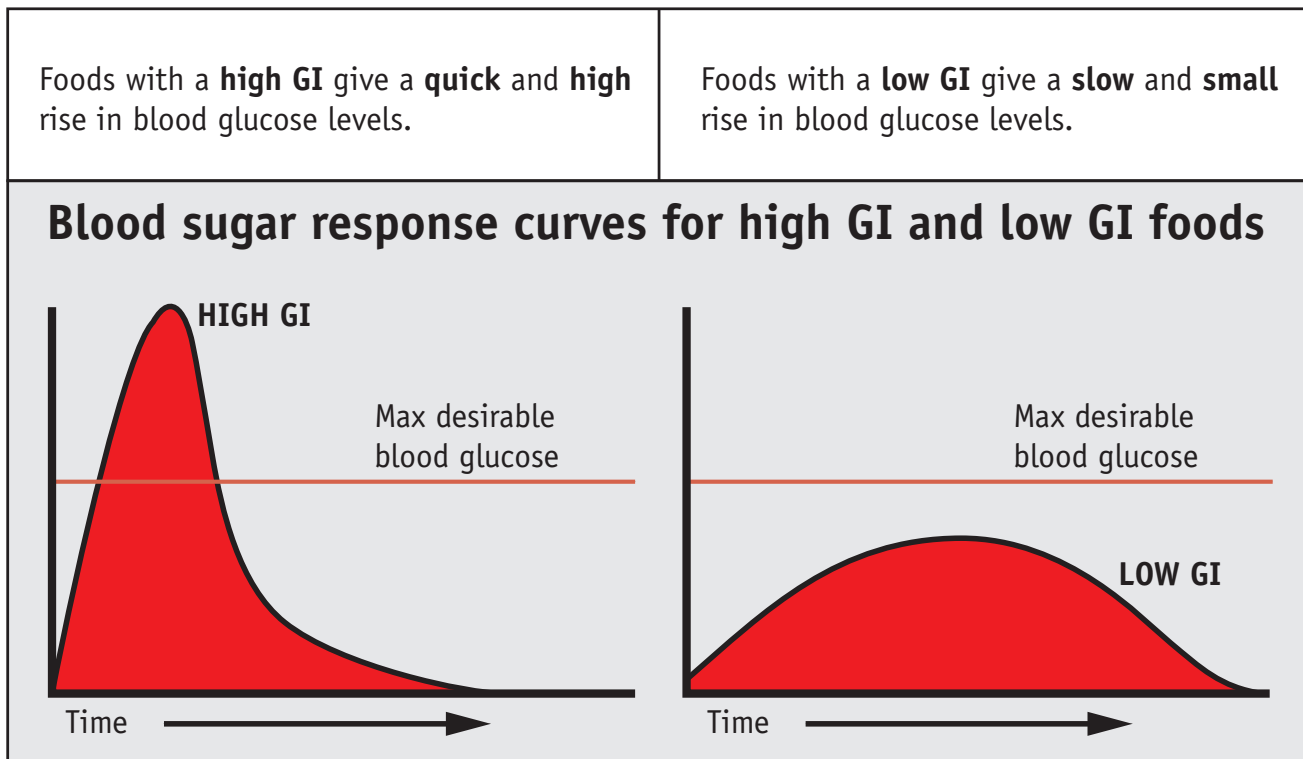


Glycemic Index and Diabetes

Carbohydrates are the starches and sugars in the foods you eat. **The glycemic index (GI)** is a scale that ranks **carbohydrate-rich** foods based on how **quickly** and how **high** they raise blood glucose levels.



Eating foods with a low GI may help you to

- Control your blood glucose and blood cholesterol level
- Control your appetite
- Reduce your risk of heart disease

Grains / Starchy Foods

Low GI Foods (55 or less) Use most often	Medium GI Foods (56-69) Use more often	High GI Foods (70 or more) Use less often
Breads <ul style="list-style-type: none"> • 100% Stone ground whole wheat (e.g. Country Harvest) • Cobs® higher fibre white • Cobs® Capeseed • Corn tortilla • President Choice (PC)® Blue Menu™ multigrain English muffin • Pumpernickel (rye kernel) • Sprouted grain (e.g. Silver Hills™, Healthy Way™, Stonemill Bakehouse™) 	Breads <ul style="list-style-type: none"> • Cobs® Country Grain • Chapatti or Roti • Rye • Sourdough rye • Whole wheat tortilla • Whole wheat pita • Whole wheat* 	Breads <ul style="list-style-type: none"> • Kaiser roll • Mantou (Chinese steamed buns) • White bread • White bagel
Cereals <ul style="list-style-type: none"> • All-Bran Original™ • All-Bran Buds with psyllium™ • Alpen™ whole grain museli • Oat bran • Oats, steel cut • Oats, large flake • PC® Blue Menu™ steel cut oats (quick cooking) • Red River™ 	Cereals <ul style="list-style-type: none"> • Cream of wheat* • Grapenuts™* • Kellogg's Raisin Bran™ • Kellogg's Special K™* • Oats, quick cooking* • PC® Blue Menu™ Bran Flakes • PC® Blue Menu™ Fibre First Multi-Bran • Shredded Wheat™ • Weetabix™* 	Cereals <ul style="list-style-type: none"> • Cheerios™ • Corn flakes • Corn Chex™ • Grapenut™ flakes • Instant oats • Instant cream of wheat • Rice Krispies™ • Rice Chex™
Rice <ul style="list-style-type: none"> • Parboiled rice • Uncle Ben's converted rice™ 	Rice <ul style="list-style-type: none"> • Basmati rice, white or brown • Brown rice • Wild rice 	Rice <ul style="list-style-type: none"> • Instant rice • Glutinous rice • Jasmine rice • Short grain rice (e.g. sushi rice, Arborio rice) • Sticky rice

* These medium GI foods are at the high end of the range (more than 65).

Low GI Foods Use most often	Medium GI Foods Use more often	High GI Foods Use less often
Pasta and Noodles <ul style="list-style-type: none"> • Bean thread noodles • Pasta (cooked al dente) • Mung bean noodles 	Pasta and Noodles <ul style="list-style-type: none"> • Buckwheat noodles (Soba) • Rice noodle • Rice vermicelli • Udon 	Pasta and Noodles <ul style="list-style-type: none"> • Chinese Northern white noodles • Plain steamed glutinous rice roll
Other Grains <ul style="list-style-type: none"> • Appam or Idiappam (string hoppers) • Barley • Buckwheat/Kasha • Bulgar (cracked wheat) • Quinoa • Wheat kernels 	Other Grains <ul style="list-style-type: none"> • Cornmeal* • Couscous • Taco shells* 	Other Grains <ul style="list-style-type: none"> • Millet
Starchy vegetables <ul style="list-style-type: none"> • Cassava • Plantain, green • Sweet potato • Taro • Yams 	Starchy vegetables <ul style="list-style-type: none"> • Breadfruit, raw • Potato, new or white • Plantain, ripe • Sweet corn 	Starchy vegetables <ul style="list-style-type: none"> • Baking potato (Russet, Idaho) • Mashed potato • Instant mashed potatoes • French fries
Others <ul style="list-style-type: none"> • Chickpeas (garbanzo beans) • Chana dal • Kidney beans • Lentils • Soy beans (Edamame) • Split peas • Baked beans • Dhokla (steamed cake made with wheat and chickpea flour) 	Others <ul style="list-style-type: none"> • Black bean soup • Green pea soup • Arrowroot biscuits • Digestive biscuits • Oatmeal cookies • Social tea biscuits • Walker's Highland oatcakes™ • Breton™ wheat crackers* • PC® Blue Menu™ snack crackers (variety) • Ryvita™ • Crispbread • Stoned wheat thins* • Popcorn 	Others <ul style="list-style-type: none"> • Graham wafers • Melba toast • Pretzels • Rice cakes • Rice crackers • Soda crackers • Vanilla wafers

GI values are expressed as a percentage of the value of glucose. GI of glucose = 100

A Few Helpful Tips:

Limit use of processed foods. More processed grain products usually have higher GIs.

- Eat breads with larger pieces of grain rather than bread made mostly with refined flour.
- Use steel cut oats or large flake oats rather than quick or instant oats.
- Include barley, bulgur (cracked wheat), buckwheat, quinoa and legumes (dried peas and beans) more often.
- Use whole fruit and vegetables rather than juices.

Avoid over-cooking.

Usually the more a starch is cooked, the more easily it breaks down into glucose, raising blood glucose more quickly.

Example: pasta cooked al dent (firm) has a lower GI than soft cooked pasta.

Monitor the amount of carbohydrates eaten at each meal and snack.

- Eating large amounts of low GI foods can still make blood glucose levels too high.
- Checking your blood glucose before and after meals allows you to see if you are eating the right amount or type of carbohydrate. Aim to keep your blood glucose between 5 and 10 two hours after meals.

Introduce low GI foods gradually.

- Since many low GI foods are high in fibre, introduce them gradually and drink plenty of fluids to avoid discomfort and gas.

Lower GI Menu Ideas

Healthy Start

Use a low GI bread or cereal. Add some low fat milk or yogurt and fruit to kick start the day.

- Large flake oats with low fat milk and raisins
- Museli with yogurt and fresh berries
- All Bran cereal with low fat milk and sliced banana
- Sprouted grain toasts with peanut butter and a fresh apple
- French toast with fresh berries and yogurt
- Poached egg on multigrain toast with a fresh orange
- Homemade oat bran muffin, low fat cheese and fresh fruit



Lunch Break

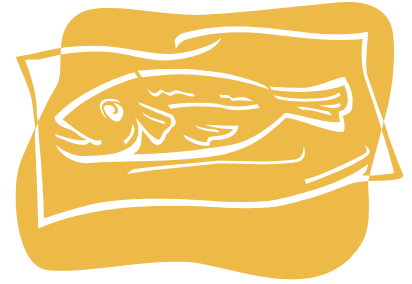
Soups and sandwiches offer quick lunch solutions all year round. Add a green salad or raw vegetables.

- Try one of the following soups with whole grain bread or roll:
Minestrone, split pea, lentil, barley with vegetable and beef
- Sandwich made with sprouted grain bread. Fill with tuna, salmon, lean meat or chicken; add lettuce, sprouts, tomatoes and/or cucumber.
- Pasta salad with vegetables, tossed in a low fat dressing. Mix in shrimp or chicken.
- Fresh fruit salad with yogurt or cottage cheese (no salt added) and stoned wheat thins
- Small whole grain bagel topped with light cream cheese and canned salmon
- Baked beans on multigrain toast and salad
- Burrito made with whole wheat tortilla, black bean, low fat cheese, low fat sour cream, diced cucumber and tomato

Savory Suppers

Base your meal on a low GI starch. Add plenty of vegetables and keep protein portions moderate.

- Grilled fish with Basmati rice and vegetables
- Stir-fry chicken, shrimp or tofu, Chinese vegetables and noodles
- Meatloaf made with rolled oats and grated vegetables (carrots and zucchini). Serve with new potatoes.
- Vegetable lasagna made with low fat cheese
- Chili made with kidney beans and lean ground meat. Serve with green salad.
- Lean meat, chicken or fish kabobs with corn on the cob and grilled vegetables
- Roast meat or chicken with baked sweet potato and steamed vegetables



Super Snacks

To keep your energy level up between meals, try the following nutritious snacks.

- Low fat milk and low GI cereal
- Low fat yogurt and fresh fruit
- Low fat milk and oatmeal cookies
- Muffin made with oats or oat bran and fruit
- Grainy bread and peanut butter
- Stoned wheat thins or Ryvita™ with low fat cheese
- Low fat popcorn
- Whole wheat pita and hummus

Resources

- The Low GI Handbook: The New Glucose Revolution Guide to the Long-Term Benefits of Low GI Eating. By Jennie Brand-Miller, Kaye Foster-Powell, Thomas M.S. Wolever. Da Capo Press, July 2013
- The Low GI shopper's Guide to GI Values 2014: The Authoritative Source of Glycemic Index Values for more than 1200 Foods. By Jennie Brand-Miller, Fiona Atkinson, Kaye Foster-Powell. Da Capo Press, December 2013 (2015 version will be released on December 30, 2014)
- The New Glucose Revolution Low GI Vegetarian Cookbook: 80 Delicious Vegetarian and Vegan Recipes Made Easy with the Glycemic Index. By Jennie Brand-Miller, Kate Marsh and Kaye Foster-Powell. Da Capo Press, September 2006.
- The official website for the glycemic index and international GI database, University of Sidney, Australia: www.glycemicindex.com
- Canadian Diabetes Association: www.diabetes.ca



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