

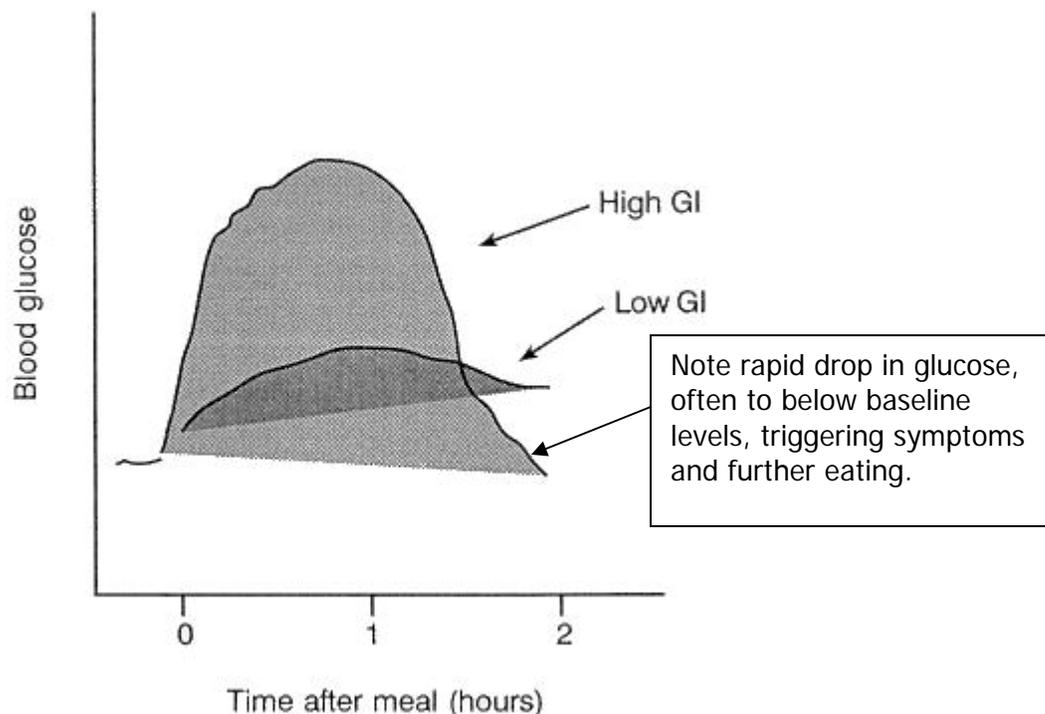
REDUCING GLYCEMIC LOAD

❖ Definitions:

- **Glycemic index** is a measure of how much a food raises blood glucose level. Glucose is given by convention a glycemic index of 100, and all other foods are measured against it. High = 70 – 100, Medium = 50 – 70, and <50 is low.
- **Glycemic load** = Glycemic index X amount of carbohydrates eaten
- **Glycemic response** is an individual's response to eating a certain food. This may vary according to the patient's age, genetic make-up and exercise level.

❖ What effects do high glycemic load diets have on the body?

- A high glycemic load meal causes a rapid rise in blood glucose, which triggers an excessive amount of insulin to be released to 'cover' the glucose and transfer it to the cells of the body to be fed. Insulin as a hormone is long acting, however, and the blood glucose then pendulums too low, triggering the body to defend itself from too low glucose by secreting 'counter-regulatory hormones' such as adrenaline. These events make the person feel jittery, tired and hungry again, triggering **overeating** and a repeat of the same cycle. Other effects of a high glycemic load diet include decreased mental functioning, elevated Triglycerides and suppressed HDL cholesterol.



❖ **Factors that increase the glycemic index of a food are complex and include:**

- **Finely milled flours**, even if whole wheat
- High concentration of glucose or starch, as opposed to lactose, sucrose & fructose levels.
- Low soluble-fiber content
- Soft, overcooked, overripe food
- Over processed food
- Possibly lack of fat in food

❖ **Best low glycemic index foods from different food categories (also chosen because healthy overall):**

- **Vegetables:** generally low glycemic index, but avoid excess potatoes, beets.
- **Fruit:** Choose temperate climate fruits such as apples, berries, citrus & stone fruits such as peaches. Eat less watermelon, pineapple, bananas & raisins.
- **Dairy:** generally low glycemic index. Choose lower fat varieties.
- **Beans:** generally low glycemic index – use liberally.
- **Grains:** Barley, bulgurs are best. Avoid white or instant rice, especially Jasmine or 'sticky' rice & millet (Basmati or other high-amylose rices and converted rice are better)
- **Cereals:** Most processed breakfast cereals have very high glycemic index, but among the better of these are: All Bran & Special K. Even better is to choose unrefined cereals such as Cooked whole or rolled grains, Old-fashioned rolled oats, Oat bran, Roman meal, Wheatina, or Ralston high fiber. Select cereals with > 2 grams fiber per ounce.
- **Breads:** generally very high glycemic index. Choose non-flour sprouted grain breads such as Ezekial bread, or at least 100% stone-ground whole grain breads. Beware of breads that say they are whole grain but actually are mainly made from refined flours. Especially avoid refined flour products such as white bread, bagels, rolls, pastries, muffins.
- **Pasta:** generally moderate glycemic index. Choose whole grain.
- **Snacks:** OK snacks include air-popped or lightly oiled popcorn, veggie sticks, and peanuts. Avoid candies, rice cakes. Use chips only sparingly and choose whole grain varieties.

❖ **Eating strategies**

- **Minimize most commercial breads, bagels, rolls, muffins, pastries and breakfast cereals – these are the source of most of the glycemic load in most people’s diet!**
- Realize that choosing low glycemic index foods is just one aspect of a healthy diet.
- In general, the less processed a food, the better.
- Cook pasta to the ‘al dente’ state
- If you do decide to eat high glycemic foods, eat only a small amount at a time, combine with low GI foods and ideally exercise afterwards.

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