



September 2005 e-Newsletter:

The Uselessness of the Glycemic Index

Popular diets, like the South Beach diet, are based on the glycemic index (GI). The Glycemic Index is a *supposed* ranking of carbohydrates based on their immediate effect on blood glucose (blood sugar) levels. It supposedly compares foods gram for gram of carbohydrate. Carbohydrates that breakdown quickly during digestion are *said to have* the highest glycemic indexes. The blood glucose response is *supposed* to be fast. Carbohydrates that break down slowly, releasing glucose gradually into the blood stream, are *said to have* low glycemic indexes. These ideas all sound well and good, but get ready for the truth to be exposed.

There is actually a lot of controversy concerning the “glycemic index” and its relationship with simple and complex sugars. Followers of the GI system are on the right path to minimizing their harmful sugar levels. However, there is more to understand about how the body really uses carbs.

The GI has NOTHING TO DO with the AMOUNT of the particular carbohydrate eaten. You can consume a “lower” GI food, yet eat 2-3 times more of it (like popcorn) than the rating is based on! If this happens, that extra amount consumed more than compensates for the lower utilization _you will have accomplished nothing.

Here are some GI ratings that just don't make sense:

- Vanilla ice cream rates a 60 while a boiled potato rates a 63 making the potato *worse* than ice cream.
- “Frosted flakes” (a highly sugared product) rates a 55, which is *lower* than Corn Flakes at 83 or Nutri-grain at 67.
- Potato chips rate a low 56 while a “Snickers’ Bar” rates a low 51!

Do you find something wrong with this? I certainly do!

Professor Julie Miller Jones, Ph.D. (past holder of the 3M Endowed Chair in Science) at the College of St. Catherine in St. Paul Minnesota, has reviewed the current research and tells us of some important GI drawbacks.

1. “[V]alues can vary as much as *five-fold*, depending on the food form and how it is measured.
2. “The food eaten at the previous meal can also affect the glycemic response at the current meal...
3. “The American Diabetes Association, in their recommendation of 2002, chose NOT to include a recommendation regarding the use of the glycemic index in the treatment of diabetes. They based their position on the fact that blood sugar control and glycosylated hemoglobin [HbA1C] were *not improved* in many studies where glycemic index was control. Note: HbA1C is a measure of average blood sugars. The lower, the better.
4. “...Suprisingly, the day-to-day variation in the same subject is often *greater than variation between subjects.*” (emphasis added)

Item 4 shows that predicted GI vs the measured GI can greatly vary. There is another measure termed “insulinemic index” (II) which I believe is a much better measure of the effect of a certain carbohydrate in raising blood sugars because this measure looks at the insulin output required to maintain a constant blood sugar level. Less insulin output is always best.

The following quote from the article: “*Inconsistency between glycemic and insulinemic responses to regular and fermented milk products,*” shows the vast difference between the GI and II:

“Milk products appear *insulinotropic* (causing a huge insulin outpour) as judged from 3-fold to 6-fold higher insulinemic indexes than expected from the corresponding glycemic indexes.” *American Journal of Clinical Nutrition*, Vol. 74, No. 1, 96-100, July 2001 Translation: What this means is that to keep the sugar levels a small bit lower, a HUGE amount of insulin is produced. This is *very stressful* on your delicate pancreas - the opposite of what we have been told.

The Flint et al., *British Journal of Nutrition* 2004 Jun; 91(6):979-89 publication confirmed their finding and explains more:

- “...*No association* was found between predicted and measured GI.
- “...There was *no association* between GI and II.
- “...In conclusion, the present results show that the GI of mixed meals calculated by table values *does not predict* the measured GI and furthermore that carbohydrates do not play the most important role for GI in mixed breakfast meals. Our prediction models show that the GI of mixed meals is more strongly correlated either with fat and protein content, or with energy content, than with carbohydrate content alone.”
- The “low” vs. “high” GI designations both generate increased glucose levels for approximately 30 minutes - the difference in peak concentrations of the lower GI food is just 0.15 grams/L. Note: 5 g equals a teaspoon of sugar in your entire blood supply of 5 liters. (If it is more than 5 grams you are diabetic. Even if it is normal, you need to know that all of the excess went to stored bodyfat.)
- Low and high GI foods both increase glucose concentrations for approximately the first 30 minutes as insulin does its job to remove excess glucose. After 30 minutes both the high and low GIs elicit decreased glucose concentrations until approximately 70 minutes.
- From 70 minutes onward, the glucose concentrations of both foods remain relatively constant. However, during this time of 70 to 135 minutes, the lower GI food ends with a HIGHER glucose level than the high GI food - the OPPOSITE of what we desire! Note: resting blood sugar levels are 0.7 – 0.9 grams/liter so don’t let anyone tell you the high GI foods abnormally lower your resting blood sugar level. Graph 2 (below) shows that glucose (GI rating = 100) at 135 minutes is 0.9 grams/liter.

It's as though the body ultimately prefers a higher GI indexed food because the lower GI food terminates with a HIGHER sugar level, a bad outcome. A complex carbohydrate and lower GI carbohydrates take just 15 minutes to start hitting the bloodstream as glucose - as the chart shows. So don’t be fooled. Furthermore, *regardless of GI measure, it is the same amount of sugar* and your pancreas or your bloodstream *will not be fooled*.

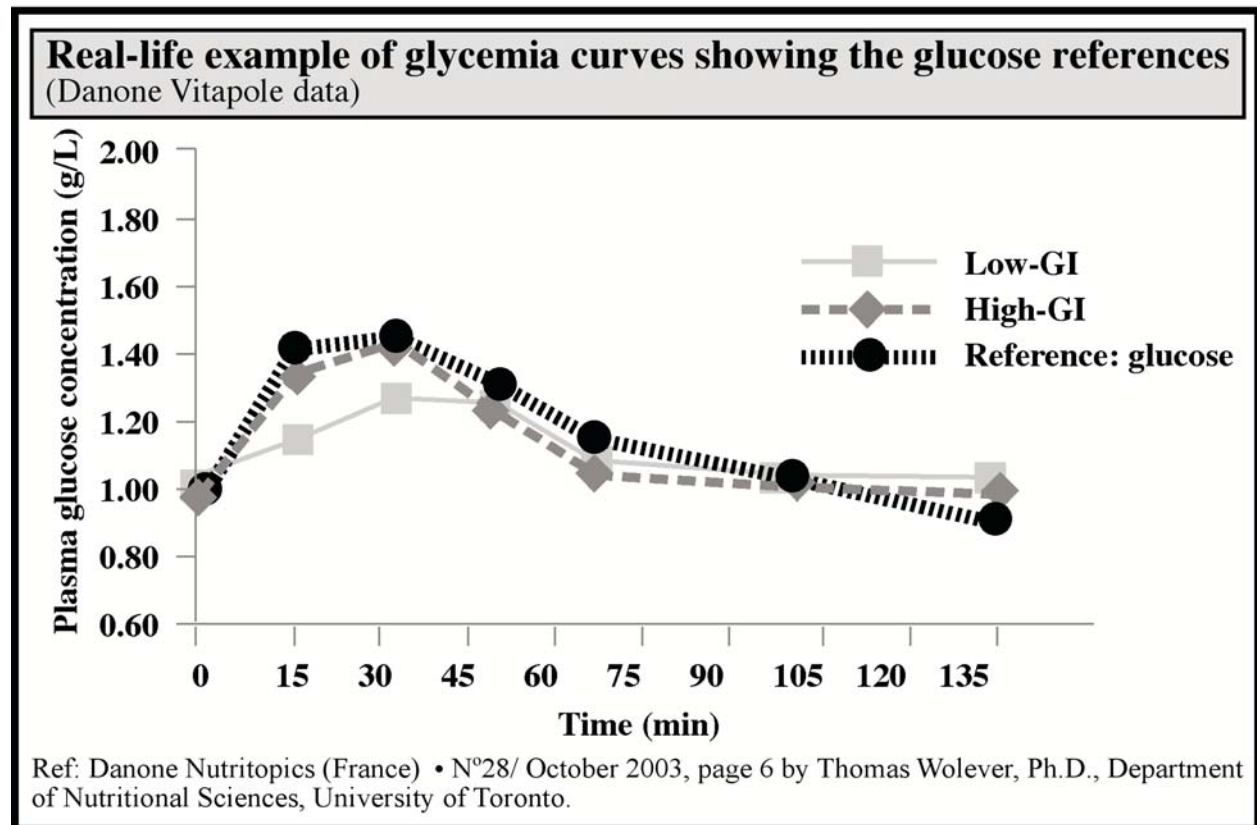
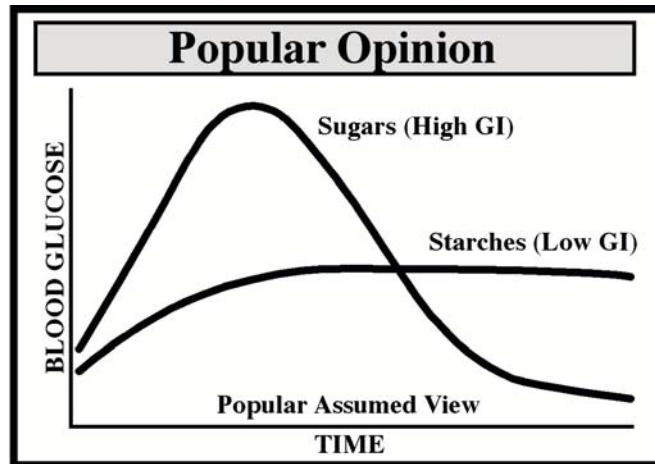
Each five grams (20 calories) of carbohydrate is approximately the equivalent of one teaspoon of sugar. Start checking the food labels. How many teaspoons of sugar are you unknowingly consuming each day? For decades, the average American has unknowingly consumed over 60 teaspoons of sugar (in the form of carbohydrates) each day, like juice, oatmeal, so-called “heart-healthy” cereals, rice, bagels, spaghetti, food bars, etc.

The only part of a carbohydrate food that isn’t sugar is its fiber content. And contrary to what

practically every nutritionist will tell you, as you have already discovered, fiber is not food for a human being. We can't digest fiber the way a cow can because a cow needs its four stomachs to do so.

Millions of people are trying to minimize their blood sugar based on an erroneous belief of GI. But the real-life approach is much more simple. Make ALL carbohydrates "last on the list" after consuming plenty of protein and natural fats.

Glucose Graph: Real-life vs Popular Opinion



This month's low-carb recipe!

Japanese-Style Sirloin

INGREDIENTS

Sauce:

1/2 cup beef broth (your favorite brand or homemade)
1/3 cup soy sauce (organic is best)
1/2 tsp. sugar
2 Tbl. (dry) sherry

Meat & Vegetables:

2 Tbl. peanut oil
8 ounce thinly-sliced sirloin steak or julienne-cut flank steak
1 onion, sliced
1 celery stalk, thinly sliced accross grain
1 carrot, cut lengthwise
1 red bell pepper, thinly sliced
3 mushrooms (shitake is best), thinly sliced
1 bunch spinach, washed, spun dry and de-stemmed
1 entire bamboo shoot (canned is fine), sliced
1 bunch scallions, sliced into 1/2" lengths
4 oz. water chestnuts, sliced

PREPARATION

1. Mix the sauce ingredients together.
2. In a wok or cast-iron skillet, heat 1 Tbl. oil on high until hot (the other 1 Tbl. of oil is used for the vegetables). Add the meat and cook until browned. Remove.
3. Heat the other 1 Tbl. of oil on high. Add the onion, celery, carrot, and red pepper. Toss and cook for about 2 minutes. Add the remaining ingredients and cook for another minute or so.
4. Add the steak and sauce. Cook until hot – about 2 minutes.

I love cooking in one main pan, like a wok or a cast-iron skillet, because clean up is so easy! There's no need to make a mess of pots and pans with this recipe!

Peanut oil, coconut oil, or ghee are the 3 best oils for high-temperature frying because they are fully saturated and their molecular structure can't be easily distorted (turned into trans fats).

ATTENTION: If any of you have your own website or post a blog on the web, and wouldn't mind posting something about the professor, please email us at: newsletter@professornutrition.com. Thanks!