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Nutrition: The Basics

First Thing You Need to Know: What is a Low GI Diet?

A low GI diet means each meal is made up of one third protein, two thirds fruit and veg.

If you're wondering "where's the carbohydrates?" you need to get yourself up to date with the science of nutrition!

Forget "food groups", forget calories. Think of your body as an engine. It needs fuel, water, and parts for maintenance, and it needs to avoid getting gunked up with junk.

Cars run on hydrocarbons. Humans run on carbohydrates. I said forget "food groups", because the body turns just about everything it can into carbohydrates. Fats, sugars, cereals, fruit, veg, it's all going down the same road. If you think of carbs as 'cereal products', think again. The main carbohydrates the 'human engine' should be running on are

fruits & vegetables.

Proteins, vitamins and minerals are your "parts for maintenance". You need these daily, but shouldn't need to do any calculating if you get into a GI diet.

The 'GI' [Glycemic Index'] is a classification of foods according to the speed at which they release their sugars into the bloodstream. A fast-release (High GI) food is associated with oxidative damage to cells –particularly neurons, and several glucose-processing disorders including metabolic syndrome, type II diabetes and obesity.

For a long time in health circles there has been an interest in "CR" [Calorie Restriction] because it appears to promote unusual health, vitality and long life for many mammals. It is effective because of gene transcription [effectively some kinds of CR alter the expression of genes that cause some aspects of metabolism and aging, both in the body and the brain].

The discovery via epigenetics that some types of CR need not be followed on a permanent basis in order to achieve this change is welcome as well as surprising. A low GI diet followed for around six months will affect semi-permanent changes that can only be reversed if you're very overindulgent afterwards. So you can stay on low GI around half the time and stuff your face the other half [although we'd recommend you stuff your face with things that don't slow your brain down too much]. You can always go back to full GI to 'reset' the genome if you accidentally overdo it and trip those genes in the wrong direction.

If you stay on low GI there's no need to restrict any calories. Here's the trick –the change in the genome that's deleterious to health clicks its switch in response to an excess of something called "exothermic reactions". That's a kind of chemical reaction that gives off a lot of heat. Sucrose [table & cooking sugar] and many fats and carbohydrates cause these reactions to occur inside our bodies and brains, releasing particles called free radicals that damage the tissue there. These foods are all 'high GI' because their sugars are released quickly.

When food is cooked in hot vegetable oil or baked it produces similar reactions in the food, creating carcinogenic chemicals like acrylamide. These reactions affect the expression of the

genome in a way that changes how efficiently the body can deal with glucose. If the body deals with glucose in the wrong way, we get 'metabolic syndrome', become insulin-resistant, susceptible to diabetes, age more quickly and are prone to cardiovascular problems. It also slows down the brain and encourages senility, so we don't want to go there. When we follow the low GI diet, the 'switch' can be clicked in the opposite direction. Once it has, we can relax adherence to the diet as long as we keep watch for any warning signs.

Signs to watch for:

Going in the right direction:

If you are processing glucose optimally your blood pressure will be lower than 'normal' for your age, and your body temperature will be a degree or 1.5 degrees lower than 'normal' (the temperature thing can be difficult to spot). You should also notice increased energy and of course if you were overweight, weight loss. If it's not working, you may need to adjust your hormones by practicing anxiety reduction (this hack works even if you don't feel worried or nervous) because anxiety hormones are the main remaining thing that can keep that rogue gene turned on.

Going in the wrong direction:

You'll notice weight gain, possibly fatigue, and a rise in blood pressure and temperature (although your GP may say both are 'normal'). Your blood sugar and cholesterol will rise and you may get headaches or indigestion. Some people notice mood swings or waves of fatigue.

The low GI diet is pretty easy to follow, and it's packed with goodies for your brain. It goes like this:

Get a regular size dinner plate. Fill one third of it with fresh unprocessed protein [fish, meat, cheese, eggs, or whatever you like]. Fill the other two-thirds with vegetables and/or fruit. Eat it. Do this 3 times a day.

Twice a day, have a half-sized version for a snack. In the 'veg & fruit' space on your snack plate, include half a handful of nuts or other source of omega 3.

Avoid completely:

Chips/fries, crisps, corn products, fizzy drinks (soda, coke etc), jelly/jam, candy/sweets.

Avoid as much as possible:

Salt, sugar, pasta, potatoes, white rice, bread, cookies/biscuits, cakes, processed foods [eg burgers, bacon, sausages], anything with loads of additives, processed cereals, grains except for oats.

If you're one of those people who can't handle life without bread, use wholemeal. You can replace your 'snack' meals with sandwiches if you're eating bread.

Anything fried should be fried in olive oil, and grilling or boiling is better than baking or frying. Barbecues are right out. Replace your burgers with lumps of pork or chicken steak or fish in wholemeal bread with a bit of fresh salad and mayo and it's really not all that different!

If you smoke cannabis and you get the munchies, explore melons, peaches, lychees, walnuts and grapes, honey on wholemeal bread, fruit yogurts, and custard with honey and anything. [If

you don't like any of this you are either dead or not stoned enough.]

This diet is NOT to be strictly adhered to; once you're sure your body is processing glucose okay it's fine to eat a load of crap once or twice a week, but the GI diet should be your 'default' eating habit if you want to look after your body and brain and promote healthy longevity.

If you're not eating low GI, you're on the wrong fuel!

If you try to run an engine on the wrong fuel, two things can happen. If the fuel's too refined, the engine could explode, and in humans that means your cells will explode [literally] as they're exposed to lots of free radicals, making you susceptible to cancers and rapid aging. Also, it will gunk up the engine with toxic waste products that it can't get rid of, and in humans that means obesity, diabetes, heart trouble and strokes.

So, just like you wouldn't put crude oil or rocket fuel into your car engine, don't do it to yourself or the results can be remarkably similar.

So What Does 'GI' Measure?

Fuel companies rank hydrocarbons on a scale according to how refined they are, all the way from crude oil to rocket propellant according to the extent that they are combustible, on a measure called "Octanes". The Glycemic Index (GI) ranks carbohydrates on a scale from 0 to 100 according to the extent that they are combustible, e.g. to which they raise blood sugar levels after eating. Foods with a high GI are those which are too rapidly digested, absorbed and burned, resulting in marked fluctuations in blood sugar levels and all sorts of health problems. Low-GI foods, by virtue of their slow digestion and absorption, produce

gradual rises in blood sugar and insulin levels, and have proven benefits for health.

Where's the Proof?

Recent studies from Harvard School of Public Health indicate that the risks of diseases such as type 2 diabetes and coronary heart disease are strongly related to the GI of the overall diet. The World Health Organisation (WHO) and Food and Agriculture Organisation (FAO) recommends that people in industrialised countries base their diets on low-GI foods in order to prevent the most common diseases of affluence, such as coronary heart disease, diabetes and obesity. There are plenty of papers in our own files about this too.

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 will help you to:

- Control your blood glucose levels
- Control your cholesterol levels
- Control your appetite
- Avoid getting heart disease
- Avoid getting type 2 diabetes
- Avoid cancer and cardiovascular diseases
- Protect your skin and your eyesight
- Protect your brain & avoid senility
- Live longer and age more slowly

In general, the lower the GI rating of a food, the better the quality of carbohydrate.

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.

Scientists have so far measured the glycemic indexes of about 750 high-carbohydrate foods. The key is to eat little of those foods with a high glycemic index and more of those foods with a low index. Use the chart below to help you make healthier choices.

Low Glycemic Index Foods (55 or less)

(choose most often)

- Apple [38]
- Apple juice [40]
- Butter beans [39]
- Carrots [47]
- Cherries [22]
- Chick peas [28]
- Grapefruit [25]
- Grapes [46]
- Haricot beans [45]
- Kidney beans [28]
- Lentils [30]
- Mango [48]
- Milk [40]
- Oat bran bread [44]
- Oatmeal [44]
- Orange [42]
- Peaches [42]
- Peanuts [14]
- Pears [38]
- Peas [48]
- Plain Yogurt [35]
- Plum [25]
- Pumpernickel bread [41]
- Strawberries [40]
- Sushi rice [55]

- Sushi with salmon [55]

Medium Glycemic Index Foods (56-69)

(choose sometimes)

- Apricots [57]
- Banana [56]
- Basmati rice [61]
- Beets [64]
- Breadfruit [68]
- Brown rice [58]
- Buckwheat [56]
- Cantaloupe melon [65]
- Couscous [66]
- Ice cream (vanilla) [62]
- Muesli (Alpen) [56]
- Orange juice [57]
- Pineapple [66]
- Raisins [63]
- Rye bread [56]
- Split pea or green pea soup [66]
- Whole wheat bread [57]

High Glycemic Index Foods

(avoid)

- Table sugar [sucrose]
- White bread
- Fries
- Popcorn
- Instant mashed potatoes
- Baked potato
- Instant rice
- Corn Flakes
- Rice Krispies
- Cheerios
- Bagel, white
- Soda crackers
- Jellybeans
- Corn snacks (crisps)
- Soda drinks [eg cola]
- Donuts
- Burgers
- Sausages

If You Want to Know More

Read: "optimal nutrition for beginners", in the nutrition section of the library.

A full glycemic index list is included there too.