

Glycemic Index Food Rating System

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What is the glycemic index and why is it important?

I started down this journey 15 years ago but by now most have probably heard of the glycemic index. It is extremely important to many people who want to lose weight, have diabetes, or many other health conditions like high cholesterol or high blood pressure. It is even important for many other conditions. This is probably the most complete and FREE guide to glycemic index foods and eating guidelines available. Feel free to copy this or pass it around as you desire.

The glycemic index is a relative measure of how fast food gets converted into glucose sugar and delivered to the blood stream. Typically this absorption will take place over a two or three hour period. How fast and how much sugar is delivered usually indicates how much insulin will be produced. Too much insulin causes many bad biochemical reactions and can lead to weight gain and serious illnesses and degenerative diseases. The index value is set based on the amount of sugar produced over time compared to a standard food like white bread. The standard food sets the value of 100 for the glycemic index. Some glycemic values use glucose sugar as the 100 standard setting value. I am using white bread here as the 100 glycemic index standard.

The glycemic index is not perfect as an insulin creator indicator but it is the best indicator we have found so far. Many factors influence the glycemic index (GI) and can cause variations between individuals and ethnic groups. The values given here are a good general indicator and guideline but the values are not to be considered absolutely correct at all times. The charts presented here more importantly give an indication of relative values. Is this food high, medium, or low. The quantity of food you eat at one time affects the amount of insulin produced. If you eat a very small amount of high GI food it will probably cause less insulin reaction than eating a very large amount of medium GI foods. This does not mean that you should eat high GI foods on a regular basis. It instead means that it is best to eat small quantities of food many times a day and never eat most of your calories in one large evening meal.

The glycemic index dispels the myth that all sugars are bad and all complex carbohydrates are good for you. We see from the charts that many complex carbohydrates are worse for you than pure sugar.

The glycemic index of an individual food item is not as important as the sum of the indexes of all of the food and drink you consume at one time. This is called the caloric weighted glycemic sum. It is computed by adding the sum of the calories and GI for each food item. If you eat fewer calories of an item it will have less influence on the final average of caloric weighted glycemic indexes. This can get a little complicated unless you like doing math in your head. Just remember to always eat a substantial amount of low glycemic foods to mix with your higher GI foods. For example 8 oz. of baked potato (very high), 4 oz. of steak (very low), and 4 oz. of cooked carrots (very high) would give you a high glycemic sum. It would be better to have 4 oz. of boiled potatoes (high, but not as high as baked), 8 oz. of steak (very low), and 4 oz. of green beans (low). The first example would end up with an average GI of about 90 (high - same GI as pure table sugar), while the second example would end up with an average GI of about 45 (medium low).

Factors that influence the Glycemic Index

1. Amount of protein and fat in a food. More protein and/or fats and less carbohydrates leads to a lower GI value.

2. Fiber content, in particular soluble fiber content. There are two types of fiber – soluble and insoluble. Insoluble fiber common in most grains, wheat and rice, does not seem to influence the glycemic index. Soluble fiber, from oats, fruits, and vegetables reduces the GI.
3. Degree of food processing. Instant foods are always much higher. The closer food is to its natural state the lower the GI. Heating also raises the GI.
4. Food form. Powdered, ground, or liquid foods tend to be higher than coarser solid forms. Puffed foods, like popcorn and puffed rice, usually have a very high GI.
5. Amount of sodium and potassium. These elements are needed for digestion and if they are present in the food it may speed up the conversion to sugar and raise the GI.
6. Ripeness or maturity of food. Ripeness generally raises the GI.
7. The nature of the starch in a food. Foods contain different starches and sugars naturally and they effect the glycemic index.
8. Enzyme content of food. High amounts of amylase enzyme which is used to digest carbohydrates can quicken the conversion process and raise the GI.

Bad Food Ingredients

You must minimize your consumption of these food ingredients. They are all very high glycemic or really bad for other reasons. These items are very common ingredients in much of the typical food we eat (or used to eat). Get used to reading the package labels and try to avoid these.

1. Maltodextrin
2. Maltose
3. Glucose
4. Dextrose
5. Corn syrup
6. Sucrose (table sugar) usually listed as sugar on the ingredients list
7. High fructose corn syrup
8. Partially hydrogenated vegetable oils of all kinds (common in margarine, shortening, regular peanut butters, and many items that are creamy and spreadable at room temperature)
9. Hydrogenated vegetable oils of all kinds
10. Enriched flours and enriched macaroni products. Avoid anything that has the word “ENRICHED” on the package. That means they stripped all of the good parts out of the grain and later added a few token vitamins back into the now very high glycemic grain.

Sneak Attach Insulin Bombs

You must minimize your consumption of these foods. Many of these items are thought to be good for you and are included as key items in many diets and nutrition plans. They all have a very high glycemic index and usually cause a very strong insulin reaction in most people. “Cholesterol free” means nothing if the food item is high glycemic. Then more cholesterol is created by eating these foods than any normal food could contain. If eaten, they must be eaten with substantial protein and in very small quantities. Please see the detailed glycemic index chart for a complete list of high glycemic foods.

If you start your nutrition plan by eliminating these and adding more protein, vegetables, fish and flax omega-3 essential oils, you will be well on your way to a better diet.

1. Bananas, raisins, dates, pineapple, all melons (especially watermelon).

2. Sweet corn, carrots, potatoes (especially plain baked potatoes and of course avoid all french fries), candied yams/sweet potatoes.
3. Anything made with enriched flour, like bagels, muffins, croissants, most white and wheat bread, corn bread, and bread stuffing.
4. All white rice, most macaroni.
5. All popcorn (especially air popped).
6. Rice cakes, pretzels, all crackers including wheat crackers, rye crispbread, and graham crackers.
7. All puffed, chex, and flake type breakfast cereals including Cheerios, Wheaties, total, multi-grain chex.
8. Instant oatmeal and cream of wheat.
9. Pancakes and waffles.
10. Plain cheese pizza, vegetarian pizza, most pizza unless eat just the toppings
11. Honey, molasses, and maple syrup
12. Gatorade, Powerade, sports drinks.
13. Most Power Bars and other sports energy bars except the super high protein ones.
14. All sugared fruit juices and Sunny Delight.
15. Sugared lemonade, kool-aid, soda pop (but we all knew these were bad?)
16. Grape jelly and most sugared jellies.

Lower Glycemic Index Food Shopping Guide

(Food shopping guide to use if you choose to try for a lower glycemic index diet to lose weight or correct some health conditions.)

Drinks (8-12 glasses a day)

Drink water, water, and more water. Herbal tea, green tea, diet soda pop, and decaffeinated coffee are also good. Crystal Light mix is OK, but don't make it your main drink. Cranberry and apple juice are OK in small amounts. A very small amount of grapefruit and orange juice is OK. **Skip** all sports drinks (Gatorade, Powerade), sugared soda, other sugared drinks, caffeinated coffee, beer, liquor, and wet or sweet wines.

Meats, Proteins and Essential Fats (5-8 servings per day)

Eat all meats, fish, seafood, poultry, fowl, eggs, nuts, seeds, and soybeans. Fish and seafood are the best protein source. All meats are best in unprocessed forms but even processed meats are usually not too bad. So go ahead and have some hot dogs, brats, sausages, and bacon occasionally, but don't make them your only meats. Watch out for the salt amount in the processed and packaged meats and other protein products. Buy plenty of unsalted or low salt nuts and seeds for protein snacks. Eggs are OK for all people. Vegetarians should eat lots of tofu and other soy meat products, dry beans, and eggs if possible.

Vegetables and Legumes, dry beans (3-6 servings per day)

Eat almost all vegetables, especially green vegetables, in their natural state. All beans, fresh or canned, are okay unless much sugar or sweeteners have been added. They could be fresh or quick frozen with no sugar added. Some canned vegetables are OK with no sugar or sweeteners added. **Skip** all potatoes and potato products, sweetened vegetables, beets, carrots, and corn.

Fruits (1-4 servings per day)

Eat all berries like blueberries, strawberries, etc., cherries, apples, pears, plums, prunes, peaches, grapefruit, and just a few oranges and grapes. All fruit must be fresh or fresh frozen and unsweetened. All dehydrated fruit is fine. Apple and cranberry juice. **Skip** bananas, all melons, raisins, dates, apricots, pineapple, all canned fruits, all sweetened fruits.

Grains (1-4 servings per day)

Eat only real whole grain bread with more than 4 grams fiber per slice. Made with fructose sugar is best and with flax added is better yet. Oats are the best grain to eat. Get long cooking (5 min) oatmeal. 100% durum semolina spaghetti and angel hair pasta is OK as long as it is not cooked too long. The only cereals that are OK are long cooking oatmeal, oat bran, and packaged cereal high in protein, very high in fiber (soluble fiber best), and very low in sugar (that excludes most cereals). Include only brown all natural rice. **Skip** any product made with enriched flour, enriched macaroni, or saying “enriched” on the package. Skip white rice, all corn meal products, all puffed grain products, all crackers, all bakery and donuts.

Dairy (0-3 servings per day)

Eat almost any dairy products except ice cream. Yogurt and cheese are better than milk. Soy milk, although not dairy, is very good for all people. **Skip** all ice cream and frozen yogurt except ice cream with all natural ingredients and containing high protein (eggs) and usually moderate fat amounts. Sweetened with fructose would be ideal rather than using sucrose sugar. The artificial sweeteners, like corn syrup, are usually the worst.

Sweeteners (as little as possible)

Eat only pure 100% fructose sugar. Some aspartame, saccharin, and sorbitol is OK. **Skip** or reduce use of corn syrup, dextrose, glucose, maltodextrin, maltose, high fructose corn syrup, honey, maple syrup, molasses, nutrasweet, equal, sweet’n low, sweet thing, sweet one.

Snacks (should fit in an above category)

Eat nuts, seeds, acceptable fruits, cheese, yogurt, pickled herring, hard boiled eggs, sugar-free Jell-O and pudding, pure protein bars, olives, peanut and almond M&M’s. **Skip** popcorn, pretzels, rice cakes, all other candy and candy bars, all crackers, chips, graham crackers.

Sandwich Fixings (should fit in an above category)

Eat all meats, sliced meats, poultry, fish, hot dogs, brats, sausage, eggs (egg salad), tofu, soy meats, cheese, peanut butter (natural peanut butter best), miracle whip, mayonnaise, fructose sweetened or 100% fruit jams and jellies. Use only really high fiber whole grain breads and buns (made with fructose and flax is best).

Skip all breads and buns with “enriched” on the label or ingredients list. Since breads and buns are generally the worst part of the sandwich, try to minimize the bread and heap on the good ingredients to make a super protein sandwich.

Condiments

Eat garlic, onion, mustard, butter, olive oil, pepper, peppers, cinnamon, potassium salt, vinegar, cream cheese, sour cream, chives, parsley, lettuce, cabbage, and tomatoes. Only a little ketchup, steak sauce (all natural ingredients best), barbecue sauce, and lite salt. **Skip** regular salt, margarine, gravies, highly sugared sauces.

For items not on the above lists, especially for processed and packaged foods, follow these simple rules.

Check the ingredient list for these on a per serving basis.

1. Look for lower sugar amounts (≤ 1 grams/servings excellent, ≤ 3 grams/servings very good, ≤ 5 good, ≤ 9 fair). Many items contain natural sugar in the food itself. This sugar is generally better for you than added sugars and sweeteners. For example strawberries contain a lot of natural fructose sugar, but they are still low glycemic overall. However strawberries packed with added sugar are not good for you. It is the amount of added sugar that is most critical to keep as close to zero as possible.

2. Look for lower density carbohydrates (< 8 grams/serving excellent, < 15 good, < 25 fair).

Lower density carbohydrate foods usually have a lower glycemic index rating.

3. Look for higher protein amounts (> 3 grams/serving minimum, > 6 grams better, > 10 grams excellent, or fits the below ratio. Vegetables are low density, but most have a good protein/carbohydrate ratio.)

4. Protein/Carbohydrate ratio (> 1:2 excellent, > 1:3 very good, > 1:5 good, > 1:7 fair). You generally do not want to eat a lot of foods that contain very little protein compared to the amount of carbohydrates. Foods containing more than 7 times the amount of carbohydrates compared to proteins are usually not recommended. Berries, apples and some other fruits are the only exceptions to this.

5. Look for higher fiber amounts (3 or more grams/serving best). Try to stay away from foods that do not contain significant fiber. You will never get your daily fiber needs of 25 grams or more a day if you eat many low fiber foods.

6. Avoid all partially hydrogenated vegetable oils. Often a different brand of the same item is made without hydrogenated oils.

7. Look for lower salt amount (< 100 grams/serving excellent, < 200 good, < 400 fair) People with high blood pressure should look for the lowest salt possible and never consume more than one high salt item per day.

8. Look for higher potassium amount (> 200 grams/serving excellent, > 120 good, > 60 fair) People with high blood pressure and athletes should look for the highest amount of potassium possible. Most processed foods contain very little potassium.

Glycemic Index of Drinks/Beverages (8-12 glasses a day)

Table of Glycemic Values for Drinks/Beverages

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i>
< 20 Very Low	<ul style="list-style-type: none"> • Nil – water, steam distilled, the only pure and clean water • Nil – water, bottled • Nil – water, tap • Nil – herbal tea • Nil – green tea, not much caffeine • Nil – black tea and other caffeinated teas • Nil – soda pop, diet • Nil – coffee, decaffeinated • Nil – coffee, caffeinated
21-40 Low	<ul style="list-style-type: none"> • Crystal light mixed drinks
41-60 Medium	<ul style="list-style-type: none"> • 39-47 milk, whole to skim • 54 – cranberry juice, 100% natural, no sugar added • 58 – apple juice, 100% natural, no sugar added • very dry red or white wines
61-80 Medium High	<ul style="list-style-type: none"> • 69 – grapefruit juice, 100% natural, no sugar added

	<ul style="list-style-type: none"> • 74 – orange juice, 100% natural, no sugar added • 76 – grape juice, 100% natural, no sugar added • light beers, semi-sweet wines
81-105 High	<ul style="list-style-type: none"> • 90-100 soda pop, sugared • 90-100 juices, sugared or sweetened • 90-100 sugared drinks like kool-aid, lemonade • full beers, sweet wines, hard liquors • gatorade, powerade
> 106 Very High	<ul style="list-style-type: none"> • 120-135 glucose sports drinks

General Guidelines for Glycemic Categorization and Consumption of Drinks/Beverages

1. Please do not over consume caffeine or alcohol. Limit alcohol and caffeine drinks to not more than 1-2 per day. If you are eating an adequate protein, low glycemic diet, you should be more alert at all times and need less caffeine.
2. Often tap water has contaminants in it and even some bottled water is far from pure. You may want to add filters onto your house water supply. Some mineral water, well water, and hard tap water is a good source of calcium and other minerals.

Glycemic Index of Meats, Proteins, and Essential Fats (5-8 servings/day)

Table of Glycemic Values for Meats and Proteins

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i>
	<p>This food group is composed of meat, poultry, fish, eggs, nuts, seeds, and some beans. These are the main sources of good protein. The glycemic index of most of these high protein sources is low unless they are breaded or sweetened.</p>
< 20 Very Low	<ul style="list-style-type: none"> • Nil – red meat like beef, pork, veal, lamb, venison, etc. • Nil – poultry and fowl like turkey, chicken, pheasant, quail, and other birds. • Nil – fish and shellfish like cod, salmon, haddock, oysters, clams, lobster, shrimp, etc. • Nil- eggs, all kinds • 10-15 – beef patties or other ground meats with some carbohydrate (bread) type fillers. • 12-20 most nuts like cashews, almonds, walnuts, pecans, peanuts, etc. • 15-25 tofu and other soy meats
21-40 Low	<ul style="list-style-type: none"> • 25 – soybeans, raw

	<ul style="list-style-type: none"> • 20-35 seeds, like sunflower or pumpkin seeds • 30 – pure protein nutrition bars, or other very high > 50% protein bars with about 20% fat and using fructose sugar • 35 – flaxseed, raw • 25-40 – hot dogs, sausages, brats, balogna, sandwich meats and other processed meats with added salt and sweeteners
41-60 Medium	<ul style="list-style-type: none"> • None
61-80 Medium High	<ul style="list-style-type: none"> • None
81-105 High	<ul style="list-style-type: none"> • None
> 106 Very High	<ul style="list-style-type: none"> • None

General Guidelines for Glycemic Categorization and Consumption of Meats and Protein foods

1. Red meats – All red meats are very low glycemic index. They also have many vitamins and minerals. Their only problem is the high content of saturated fats. Lean cuts of meat would be best. Wild game such as deer meat is much lower in saturated fats. Range feed meat is also lower in fat than feedlot feed animals, but it is not as tender. Most of these meats have a higher percent of their natural enzymes and vitamins if they are not cooked well done. High heat destroys some of the nutrients and fats.

Glycemic Index of Vegetables and Legumes, dry beans (3-6 servings/day)

Table of Glycemic Values for Vegetables

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i> Assumption: All of the below foods should be 100% natural, unsweetened, no sugar added. If sugars are added, except fructose sugar, the values are quite a bit higher for the low ones.
< 20 Very Low	<ul style="list-style-type: none"> • None
21-40 Low	<ul style="list-style-type: none"> • 21 – cauliflower (raw) • 22 – asparagus • 23 – brussel sprouts • 23 – broccoli • 24 – spinach • 25 – artichoke • 25 – soybeans (raw) • 34 – green beans / string beans • 36 – lentil beans, red • 25-40 most other green vegetables • collards, lettuce, cabbage, sauerkraut, avocado, all peppers,

	mushrooms, olives, alfalfa sprouts, celery, endive, garlic, mustard greens, radishes, turnip greens, dill, okra, kale, seaweed, rhubarb, dandelion greens
41-60 Medium	<ul style="list-style-type: none"> • 42 – lentil beans, green • 44 – butter beans • 45 – split peas, yellow, boiled • 46 – lima beans • 47 – chick beans (garbonzo beans) • 48 – kidney beans • 54 – tomato • 54 – navy beans • 55 – pinto beans • 56 – refried beans • 58 – black-eyed beans • 60 – chick beans (garbonzo beans), canned • summer squash (not winter squash), zucchini, eggplant, water chestnuts, onion, pimento, parsley, cucumber, dill pickles
61-80 Medium High	<ul style="list-style-type: none"> • 62 – baked beans, canned, low sugar (5 grams or less) • 64 – pinto beans, canned • 65 – snow peas, sugar snap peas • 68 – peas • 69 – baked beans, canned, high sugar • 73 – yams, plain, unsweetened • 75 – potato, red, raw • 77 – sweet potato, plain, unsweetened • 80 – sweet corn and corn on the cob
81-105 High	<ul style="list-style-type: none"> • 83 – potato, white, raw • 83 – potato, red, boiled • 90 – potato, white, boiled • 91 – beets • 93 – potato, steamed • 100 – carrots, plain, cold • 103 – rutabaga • 104 – potato, boiled, mashed fine • parsnips, sweet pickles, poi
> 106 Very High	<ul style="list-style-type: none"> • 107 – french fries • 117 – potato, microwaved • 121 – potato, baked • 130 – carrots, cooked • 139 – parsnips

General Guidelines for Glycemic Categorization of Vegetables

1. Soluble fiber content lowers GI (glycemic index).
2. Cooking and heating raises the GI a small amount for legumes and green vegetables and a lot for root vegetables.

3. Canning raises GI about 5-10 points.
4. Juicing raises GI about 5-15 points.
5. Fruit ripeness; greener is lower GI, fully ripe or over ripe can raise about 5-10 points.
6. Green vegetables are mostly low GI.
7. Legumes (beans) are mostly medium GI.
8. Root vegetables, like potatoes, are mostly high to very high.

Glycemic Index of Fruits (1-4 servings/day)

Table of Glycemic Values for Fruits

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i> Assumption: All of the below foods should be 100% natural, unsweetened, no sugar added. If sugars are added, except fructose sugar, the values are quite a bit higher for the low ones.
< 20 Very Low	<ul style="list-style-type: none"> • None
21-40 Low	<ul style="list-style-type: none"> • 30 – blueberries • 32 – cherries • 35 – raspberries • 35 – blackberries • 36 – grapefruit • 38 – boysenberries • 38 – gooseberries • 40 – strawberries • 40 – cranberries • all other berries
41-60 Medium	<ul style="list-style-type: none"> • 42 – dehydrated prunes • 42 – dehydrated plums • 47 – dehydrated apricots • 52 – prunes • 53 – pears • 54 – apples • 54 – cranberry juice (100% natural) • 55 – plums • 56 – all natural apple sauce • 58 – apple juice (100% natural) • 60 - peaches
61-80 Medium High	<ul style="list-style-type: none"> • 63 – oranges • 63 – pears, canned, unsweetened • 66 – grapes • 67 – peaches, canned, unsweetened • 69 – grapefruit juice (100% natural)

	<ul style="list-style-type: none"> • 74 – orange juice (100% natural) • 75 – kiwi fruit • 79 – bananas, really green • 80 - mango
81-105 High	<ul style="list-style-type: none"> • 82 - apricots, fresh • 83 – papaw • 90 – bananas, fully ripe • 91 – apricots, canned in syrup • 91 – raisins • 93 – cantaloupe melon (muskmelon) • 94 – pineapple • 94 – honey dew melon • 95 – dates • 103 - watermelon
> 106 Very High	<ul style="list-style-type: none"> • None

General Guidelines for Glycemic Categorization of Fruits

1. Soluble fiber content lowers GI (glycemic index)
2. Although most fruits are eaten cold, heating them will raise the GI a little.
3. Canning raises GI about 5-10 points
4. Juicing raises GI about 5-15 points
5. Fruit ripeness; greener is lower GI, fully ripe or over ripe can raise about 5-10 points
6. If you feel the urge to add sugar to the fruit, it probably has a low GI. If you have no urge to add sugar or even have the urge to add salt, then the GI is probably high.
7. Berries are generally low 30-40 GI.
8. Tree fruits that can be grown in the northern climates, apples, cherries, are mostly medium GI.
9. Southern tree fruits and citrus fruits, except grapefruit, are mostly medium high GI.
10. All types of melons are usually high GI.

Glycemic Index of Grains and Grain Products (1-4 servings/day)

Table of Glycemic Values for Grains and Grain Products

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i>
< 20 Very Low	<p>This group is composed of grains and anything made from grains. This includes whole grains, pasta, cereals, breads, and baked goods. This is the common starch group in the food pyramid. Cookies and crackers, although being grain products, are included in the snack category because of their typical use as snacks.</p> <ul style="list-style-type: none"> • None
21-40 Low	<ul style="list-style-type: none"> • 35 – flax, whole kernel, raw

	<ul style="list-style-type: none"> • 37 – bean threads pasta, undercooked slightly • 38 – barley, whole kernel, raw • 38 – oat bran, natural, non sweetened, raw or cooked • 38 – spaghetti, protein enriched, cooked 9 min. or less
<p>41-60 Medium</p>	<ul style="list-style-type: none"> • 42 – spaghetti, 100% durum whole kernel (brown color), cooked 9 min • 44 – oats, whole kernel, raw • 44 – spelt, whole kernel, raw • 46 – fettuccine pasta • 47 – rye, whole kernel, raw • 48 – amaranth, whole kernel, raw • 49 – oatmeal, 5 min. slow cooked, plain • 50 – wheat germ, raw • 50 – vermicelli pasta • 50 – French toast, whole kernel bread and lots of egg (add real butter, fructose or sugar free maple syrup, natural apple sauce for a good meal.) • 52 – kasha, whole kernel, raw • 52 – bulgar, whole kernel, raw • 52 – spaghetti, typical, cooked 5 min • 53 – spaghetti, 100% durum semolina, cooked 9 min. • 54 – star pasta • 55 – All Bran Fruit and Oats cereal • 55 – bread, barley whole kernel • 56 – ravioli, durum pasta(not enriched pasta), meat filled • 57 – 100% durum whole kernel macaroni and cheese • 59 – spaghetti, typical, cooked 8-9 min. • 50-60 true granola, raw rolled oats, oat bran, nuts, seeds, flax, and a little honey, no raisons • 60 – french toast, using regular bread and heavy on the eggs • 60 – All Bran cereal
<p>61-80 Medium High</p>	<ul style="list-style-type: none"> • 61 – wheat, whole kernel, raw (hybridized) • 61 – spaghetti, typical, cooked 10 min. • 64 – rice, whole kernel, raw (hybridized) • 64 – macaroni pasta, not using enriched macaroni/wheat flour • 65 – wild rice, whole kernel, raw • 65 – linguine pasta • 66 – rye bread, true whole kernel rye flour • 66 – oat bran, cereal, with sugar • 66 – sponge cake, high protein and fat, low sugar • 67 – spaghetti, typical, cooked 15 min. • 70 – french toast, using regular bread and light on the eggs • 71 – tortellini, with cheese inside • 71 – true pumpernickel bread, rye base • 60-70 bread, real whole kernel with flax and oats added, using fructose sugar • 77 – Special K cereal

	<ul style="list-style-type: none"> • 77 – pound cake • 78 – sweet corn, whole kernel, raw (hybridized) • 79 – whole wheat tortilla • 75-85 bread, real whole kernel or 100% stone ground wheat, using fructose sugar lowers
81-105 High	<ul style="list-style-type: none"> • 81 – millet, whole kernel, raw • 87 – oatmeal, instant, plain • 87-92 hamburger and hot dog buns, using typical flour • 92 – rye flour bread • 92 – macaroni and cheese, typical made with enriched macaroni/wheat flour • 94 – Life cereal • 94 – oatmeal, instant, brown sugar and maple • 95 – angel food cake • 95 – barley flour bread • 96 – Grapenuts cereal • 96 – croissant • 98 – corn tortilla • 98 - crumpets • 99 – Shredded Wheat cereal • 100 – cream of wheat cereal • 105 – pancakes • 105 - cornbread • 85-95 muffins, typical varieties • 95-105 typical white bread, made with enriched flour • 95-105 typical wheat bread, made with enriched flour • 85-105 pastries, danish baked varieties
> 106 Very High	<ul style="list-style-type: none"> • 106 – Cheerios • 106 – bread stuffing • 109 - waffles • 100-110 donuts • 100-120 bagels, typical varieties • 106-120 Flaked cereals made from wheat, corn, and rice like Corn Flakes, Total, Team, etc. • 106-130 Puffed cereals made from wheat, corn, and rice like Puffed Wheat, Puffed Rice, Puffed Corn, Rice Krispies, Coco Pops, Kix, Tricks, etc. • 126 – french bread • 120-130 bread, gluten free, low protein

General Guidelines for Glycemic Categorization and Consumption of Grains and Grain Products

- Whole grains –
- Pasta –
- Cereals –

- Breads –
- Baked goods -

Glycemic Index of Dairy Products (0-3 servings/day)

Table of Glycemic Values for Dairy Products

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i>
< 20 Very Low	<ul style="list-style-type: none"> • Nil – real butter, unsalted is best • Nil – margarine, not really a dairy product. Do not use margarine because it is packed with bad trans-fatty acids / partially hydrogenated oils. • Nil -15 most hard cheeses like cheddar, swiss, etc. • 15-25 cheese slices like American Cheese, etc.
21-40 Low	<ul style="list-style-type: none"> • 20 – yogurt, light, sweetened with aspartame • 20 – almond milk unsweetened, not really dairy, but an excellent milk replacement, and even contains fiber • 25 – soy milk, not recommended because consuming much soy is bad for almost all people. • 26 – yogurt, light, sweetened with fructose and aspartame • 28 – cottage cheese, sweetened with fructose and aspartame • 25-35 soft cheese spreads like Cheez Whiz (be careful, some brands have trans-fatty acids - partially hydrogenated oils) • 30 - cottage cheese, no sugar added • 32 - cottage cheese, full fat regular • 34 - cottage cheese, low fat regular • 34 – chocolate milk, artificially sweetened • 34 – cream • 35 – almond milk sweetened • 36 – half and half • 36 – raw cow’s milk • 38 – goats milk whole • 39 – whole cow’s milk
41-60 Medium	<ul style="list-style-type: none"> • 43 – 2% cow’s milk • 45 – 1% cow’s milk • 47 – skim cow’s milk • 47 – yogurt, low fat, sugar sweetened • 47 – ice cream, sugar free, with artificial sweeteners and very little or no maltodextrin or dextrose

	<ul style="list-style-type: none"> • 52-63 ice cream, all natural ingredients with eggs, high protein and moderate fat • 56 – frozen yogurt, high quality brands
61-80 Medium High	<ul style="list-style-type: none"> • 72 – ice cream, typical full fat
81-105 High	<ul style="list-style-type: none"> • 85 – ice cream, typical low fat
> 106 Very High	<ul style="list-style-type: none"> • None

General Guidelines for Glycemic Categorization and Consumption of Dairy Products

1. Dairy products are not the only source of calcium. More people in the world are lactose intolerant and do not consume any cow milk products and yet they have a lower incidence of osteoporosis than Americans. Raw milk and raw milk products from pasture feed cows is best if you can get it.
2. For most people I recommend the consumption of no more than 1 or 2 glasses of milk a day unless it is raw milk or almond milk. The cheeses and yogurts are a better and safer way to get your dairy calcium. Milk has many potential problems like, allergies, acne, lactose intolerance, chemical and hormone contamination, homogenization/xanthine oxidase which can accelerate artery damage.
3. Almond milk is not really dairy but is an excellent milk replacement. It causes no allergic reactions for most and contains many good nutrients, like high quality protein, calcium, magnesium, iron, and fiber.
4. Some symptoms related to the consumption of milk products are listed below. If you consume a lot of milk and milk products, check to see if you have some of these conditions on a regular basis. If you do, it would be best to reduce milk product consumption, especially milk.
 - a. recurrent respiratory infections, ear, throat, sinus, bronchial
 - b. sinus congestion
 - c. excess mucus
 - d. sore throats
 - e. asthma
 - f. constipation
 - g. colitis, inflammatory bowel syndrome, indigestion
 - h. acne and eczema
 - i. arthritis
5. If you chose to eat ice cream or frozen yogurt, then put plenty of nuts on it to lower the glycemic index 10-15 points.
6. Use real butter instead of margarine. Real butter contains no extremely bad partially hydrogenated oils and is much better for you.

Glycemic Index of Sugars and Sweeteners (use as little as possible)

Table of Glycemic Values for Sugars and Sweeteners

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i> Check for which sweeteners are natural and which are artificial. The natural sugars generally are more acceptable to the body. They usually have smaller side effects, especially with heavy use. The values below all assume that the item is in its pure form and not mixed with anything else. Many of these are mixed together with other items.
< 20 Very Low	<ul style="list-style-type: none"> • Nil – aspartame, artificial sweetener • Nil – saccharin, artificial, pure • Nil – acesufame potassium, artificial, pure • Nil – sucralose, artificial, pure • Nil – sugar alcohols – sorbitol, manitol, xylitol (watch out for sorbitol which causes diarrhea in small children) • 14 – organic agave nectar, natural
21-40 Low	<ul style="list-style-type: none"> • 32 – fructose, fruit sugar, pure (This is probably your best choice for an overall sugar/sweetener additive.)
41-60 Medium	<ul style="list-style-type: none"> • None
61-80 Medium High	<ul style="list-style-type: none"> • 65 – lactose, natural milk sugar • 75 – blackstrap molasses pure
81-105 High	<ul style="list-style-type: none"> • 83-90 – honey, natural, various kinds, darker is better • 85 – barley malt • 85 – maple syrup, natural, 100% pure, darker is better • 89 – high fructose corn syrup, mix of 60% corn syrup and 40% fructose • 92 – sucrose, regular white table sugar, natural • 94 – turbinado sugar and invert sugar • 95 – carmelized sugar, natural • 95 – date sugar, natural • 95 – brown sugar with molasses, natural • 80-100 – Most sugar free sweeteners mixed with maltodextrin or dextrose like equal, nutrasweet, sweet'n low, sweet thing, sweet one. Yes this is a shocker but these are mixes of aspartame and the highest glycemic starches. They are saved only by the fact that their sweetness is so concentrated that you usually only consume very small quantities of these. Diabetics should be careful to not consume large quantities of these sugar free sweeteners all by themselves. That means watch out for consuming large quantities of crystal light or adding many packets of these to your coffee or tea.
> 106 Very High	<ul style="list-style-type: none"> • 120 – corn syrup • 135 – dextrose, a starch • 138 – glucose, natural sugar. The digestive processes convert all sweeteners and carbohydrates to glucose for the energy used in the body. • 146 – glucose tablets • 150 – glucose polymers

	<ul style="list-style-type: none"> • 150 – maltodextrin, a starch • 150 – maltose, malt sugar, a double glucose
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General Guidelines for Glycemic Categorization of Sugars and Sweeteners

1. None of these sugars or sweeteners should be consumed in large quantities by themselves. It is best to only add them in small amounts to food as part of a meal or snack. Blackstrap molasses and honey are the best natural sweeteners and molasses is packed with many nutrients. Use artificial sweeteners sparingly even though they are low glycemic index because most are toxic to the body and can cause other health issues.
2. Fructose is also a good for a sweetener. It is natural and its glycemic index is so low that it is OK to be used by all people. It can be your preferred sweetener in all of your regular food with sugar added. Check for fructose as the sweetener in breads, baked goods, syrups and many other items.
3. Many of the natural sweeteners that are not pure sugar, like honey or molasses, usually have some vitamins or minerals that are useful. However do not consume large amounts of honey, molasses, dates, or pure maple syrup just to get the vitamins.
4. Any of the above can be consumed, but the ones that have a very high GI should be avoided as much as possible or just consumed in very small amounts with substantial other low glycemic food.
5. **Try to avoid corn syrup, maltose, maltodextrin, dextrose, and high fructose corn syrup.** Look for them in the ingredients list for foods. They are much worse for you than regular sucrose, table sugar.

Glycemic Index of Typical Snack Foods (servings are counted in one of the main categories)

Table of Glycemic Values for Typical Snack Foods

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i>
< 20 Very Low	<p>This food group is composed of nuts, candy, cookies, crackers, and some bakery. Cookies and crackers are included here instead of in the grain group even though they are grain based.</p> <ul style="list-style-type: none"> • 12-20 most nuts, like cashews, almonds, walnuts, pecans, peanuts, etc. • sugar free Jell-O gelatin and pudding
21-40 Low	<ul style="list-style-type: none"> • 20-35 seeds, like sunflower or pumpkin seeds • 30 – pure protein nutrition bars, or other very high > 50% protein bars with about 20% fat • 35 - olives
41-60 Medium	<ul style="list-style-type: none"> • 46 – peanut or almond M&M’s • 55 – “zone” 40/30/30 nutrition bars, 40% carbs, 30% protein, 30% fat • 55-60 chocolate bars with many nuts and nothing else • 57 – snickers candy bar
61-80 Medium High	<ul style="list-style-type: none"> • 62 – twix candy bar

	<ul style="list-style-type: none"> • 60-70 chocolate bars with some nuts and nothing else • 65 – Met-X nutrition bars • 69 – VO2 max energy bars • 70 – chocolate, pure • 77 – potato chips, high fat content • 79 – oatmeal cookies • 79 – rich tea cookies • 79 – jatz crackers • 65-80 “diabetic cookies” made with enriched wheat flour and sweetened with fructose sugar
81-105 High	<ul style="list-style-type: none"> • 81 – Power Bars • 86 – cheese pizza • 87 – popcorn, buttered heavily • 88 - muffins • 91 – shortbread cookies • 91 – mars candy bar • 93 – high fiber rye crispbread • 96 – wheat crackers • 96 – wheat thins • 96 – croissant • 98 – crumpet • 98 – skittles • 100 – life savers • 102 – saltine crackers • 105 – graham crackers • 105 – corn chips • 105 – sprees candy • 85-95 – chocolate bars, with puffed wheat, rice contents like Kit Kat bars • 90-105 most varieties of cookies made with enriched wheat flour and sweetened with regular sugar • 95-105 typical snack and party crackers, not puffed
> 106 Very High	<ul style="list-style-type: none"> • 100-120 most typical begals made with enriched wheat flour • 108 - donuts • 110 – vanilla wafers • 110 – rice krispy treats • 114 – jelly beans • 105-120 puffed wheat, rice, or corn based snacks • 116 – puffed crispbread • 116 - pretzels • 132 – rice cakes • 133 – popcorn, air popped, not buttered

General Guidelines for Glycemic Categorization and Consumption of Typical Snack Foods

- Nuts and Seeds – Almost all nuts and seeds are low glycemic and full of nutrition. Almonds, walnuts and pecans are the best commonly available nuts. Cashews although popular and tasty are the highest glycemic nut and for other reasons they are also not as good for you as the other nuts. Sunflower, pumpkin and sesame seeds are all excellent nutrition and low glycemic. Eat as many nuts and seeds as you want. Peanuts are not a nut and are less healthy for you but still pretty low glycemic. Consume them in moderation.
- Candy – Avoid almost all except high quality dark chocolate
- Cookies – Nothing good to say about cookies except they taste good. All very high glycemic. I bet you cannot eat just one. If you must look for cookies made with real ingredients and made with real butter and contain nuts and/or dark chocolate.
- Crackers – Almost all crackers are real bad. Nothing good in the cracker and chip grocery aisle.
- Salt will raise the glycemic index of snacks.
- Bakery – Everybody’s favorite but it all is very high glycemic. If you must indulge try to buffer the sugar shock load with some low glycemic real butter and nuts.
- Nutrition bars – Wide selection here. Some good and some not so good. If you want lower glycemic index bars look for ones higher in protein.
- Puffed wheat, rice, and corn – Some rice is OK if it is brown rice. Otherwise this whole category should be avoided if you are looking to reduce your glycemic index food consumption.

Glycemic Index of Sandwich Fixings (servings are counted in one of the main categories)

Table of Glycemic Values for Sandwich Fixings

(Based on white bread = 100, sucrose, table sugar = 92, fructose sugar = 32)

People with diabetes, high blood pressure, high cholesterol, trying to lose weight, or trying to correct other ailments should eat only very low, low, and medium glycemic index category foods.

<i>Glycemic Index Category</i>	<i>Foods</i> This food group is composed of jams, jellies, peanut butter, sandwich meats, and other typical sandwich makings. We are a sandwich society so this category is important. Most sandwiches that we eat are high glycemic, but careful choices below can yield an acceptable sandwich for most people.
< 20 Very Low	<ul style="list-style-type: none"> • Nil – red meat like beef, pork, veal, lamb, venison, etc. • Nil – poultry and fowl like turkey, chicken, pheasant, quail, and other birds. • Nil – fish and shellfish like cod, salmon, haddock, oysters, clams, lobster, etc. • Nil- eggs, all kinds • 10-15 – beef patties or other ground meats with some carbohydrate (bread) type fillers. • 12-18 – nut butters like almond butter, no salt is lower than salted nut butters. • 20 – peanut butter made with only peanuts and a little salt. This is the kind that separates. • 15-25 tofu and other soy meats

	<ul style="list-style-type: none"> • 15-25 cheese slices like American Cheese, etc.
21-40 Low	<ul style="list-style-type: none"> • 20 – Miracle Whip and Mayonnaise • 30 – Skippy super chunky peanut butter or similar brands (These contain much trans-fatty acids - partially hydrogenated oils. Try to avoid.) • 35 – Skippy creamy peanut butter • 25-40 – hot dogs, sausages, brats, balogna, sandwich meats and other processed meats with added salt and sweeteners
41-60 Medium	<ul style="list-style-type: none"> • 45-55 jams and jellies, fructose sweetened, berry flavors • 50-60 jams and jellies, 100% fruit, berry flavors
61-80 Medium High	<ul style="list-style-type: none"> • 60-70 bread, real whole kernel with flax and oats added, using fructose sugar • 60-70 jams and jellies, fructose sweetened, non-berry flavors • 65-75 jams and jellies, 100% fruit, non-berry flavors • 66 – rye bread, true whole kernel rye flour, not with any wheat flour (most rye bread made with enriched wheat flour) • 71 – true pumpernickel bread, rye base, not with any wheat flour • 75-85 bread, real whole kernel or 100% stone ground wheat, using fructose sugar lowers
81-105 High	<ul style="list-style-type: none"> • 80-90 jams and jellies, typical commercial sweetened, berry flavors • 85-95 jams and jellies, typical commercial sweetened, non-berry flavors • 83-100 honey, typical varieties • 87-92 hamburger and hot dog buns, using typical flour • 96 – croissant • 95-105 typical white and wheat breads made with enriched wheat flour
> 106 Very High	<ul style="list-style-type: none"> • 100-120 bagels, typical varieties

General Guidelines for Glycemic Categorization and Consumption of Sandwich Fixings

1. The most important factor in lowering the GI, glycemic index, of a sandwich is to really pile on the protein sources like meat, cheese and nuts or nut spreads and use less bread. **More meat...less bread. Nut spreads are great.** For bread use only real whole grain/kernel breads, preferably ones made with fructose sugar and have omega-3 flax and maybe oats added.

Condiments, Sauces, Spices, and Herbs

<i>Combined Glycemic Index and Food Value Rating</i>	<i>Foods</i>
Preferred (Usually pretty low glycemic index and/or contain	<ul style="list-style-type: none"> • Garlic, Onion, Chives, Parsley • All kinds of pepper and peppers

many good nutrition and medicinal qualities. You are encouraged to eat as much of these as you want.)	<ul style="list-style-type: none"> • Real Sea Salt or 100% potassium salt • Olive oil • Cinnamon, Ginger, Tumeric, Mustard, Thyme spices • Chives • Lettuce, cabbage
Good (Usually pretty low glycemic index but does not have as many good nutrition qualities. You can still eat fairly large quantities of these.)	<ul style="list-style-type: none"> • Apple cider vinegar • Mustard sauce • Tomato • Mushrooms • Butter • Cream cheese • Sour cream • Peppermint • Rosemary
OK (These have some good nutrition qualities, but they are somewhat higher in glycemic index or have other bad qualities. Only eat a little of these.)	<ul style="list-style-type: none"> • Lite salt (half potassium and half sodium) • Ketchup • All natural steak and barbecue sauces • Dill pickles
Bad (It is best to skip these entirely or in a pinch eat only small amounts of these.)	<ul style="list-style-type: none"> • Typical steak and barbecue sauces • Most gravies (contain enriched flour) • Margarine • Sweet pickles • Regular table salt

General Guidelines for Consumption of Condiments, Sauces, Spices, and Herbs

1. Watch out for sugar and sweetener additives in the sauces.
2. Try to avoid sodium salt as much as possible.
3. Almost all spices are low glycemic so use them much more than just salting things.
4. ****Cinnamon has special characteristics to lower the glycemic index of the food you eat with it. So it tastes great and lowers glycemic impact. Stock the spice rack with real organic cinnamon and enjoy. I personally go through a bottle of cinnamon almost every couple weeks or quicker. My rule is that if I am eating anything very sweet I add a lot of cinnamon to it. Get creative with its use.**

Fast Food Restaurants and Eating Out

Meat Cooking Techniques (preferred at top)

1. Boiled
2. Broasted
3. Broiled
4. Fried
5. Deep Fried

Do's

1. Do select a good size piece of meat.

2. Do try to get some vegetables (Vegetables are mostly nonexistent at fast food places.)
3. Do eat a salad with plenty of meat and cheese. Use vinegar and oil, Blue Cheese, Italian dressing, Ranch or no dressing at all.
4. Do drink water, unsweetened ice tea, or diet colas.
5. Do eat slowly.

Don'ts

1. Don't add extra salt to anything.
2. Don't eat any French fries.
3. Don't eat much bread or potatoes.
4. Don't eat breaded meats or take bread off.
5. Don't have any sugared drinks.
6. Don't eat at a place that cannot give you substantial protein without having to throw most of everything else away.
7. Don't eat desserts or ice cream.

Burger Joints (McDonalds, Hardees, Burger King, Wendy's)

1. Select a large meat sandwich and take the top of the bun off.
2. Try to stay away from breaded meats.
3. Salads are OK. Try to get one with the most meat and cheese. Use low carbohydrate dressings, like blue cheese, ranch, or Italian.
4. Skip all soups, except chili.
5. Drink water, unsweetened ice tea, or diet soda.
6. Absolutely no French fries, desserts, ice cream.

Mexican (Taco Bell, Taco John's, etc)

1. Try to not eat any of the corn tortillas (burrito shells), taco shells, or corn chips.
2. Refried beans (with cheese) by themselves are OK.
3. The steak fajitas or steak pita sandwiches may be OK in a pinch, but don't eat much of the shell.
4. Taco salad may be OK if you do not eat the corn chips. Eat just the salad, meat, and cheese parts.

Chinese

1. Skip most Chinese food unless you can find a low salt, low sugar, high meat and vegetable selection.
2. The rice is all high salt, high glycemic bad for you.
3. Wonton soup may be OK
4. **Watch out for MSG. Ask about it. Make sure their food is MSG FREE!! It is dangerous medically and will shoot the glycemic index way up and you may get the shakes if you are reactive to "taking a speed effect like drug".**

Sub Shops (Cousins, etc.)

1. Chili soup is ok, skip all other soups.
2. High meat sandwiches. Order double meat and cheese and leave half of the bread on your plate.

Pizza Places (Pizza Hut, Dominos, etc)

1. Lettuce, fruit, vegetable salads.
2. Chicken wings.

3. Eat your pizza like a small child. Eat several bites with bread. Then pull the topping off and eat it without the bread. Never eat much crust.

Steak Places (Ponderosa, Sizzler, etc.)

1. Easy to find a good piece of meat at these places. You usually get beef or some seafood. Select your favorite and do not order it well done. Well done destroys nutrients.
2. Nice salad bars. Pick up the vegetables, some fruits, lettuce, chicken.
3. Skip all macaroni or potato based salads.
4. Skip all of the breads and desserts.
5. Skip the baked potato or just eat a very small portion of it.

Italian Food

1. Spaghetti and meatballs. Of course any good Italian food place would not boil the noodles too long.
2. Skip the bread and reduce the tomato sauce on noodles. Alfredo sauce is better.
3. Lots of meat and vegetables on the noodles if possible.