



# **Glycemic 101**

## **How to Effortlessly Control Your Glycemic Index For the Rest of Your Life!**

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## Chapter 1: Introduction

This report will show how the Glycemic Index is calculated and how to use it effectively as a guide to live healthier. It will show that following the Glycemic Index can be done very easily and that the benefits of following the Index are many. You will see how controlling the foods you eat based on the Glycemic Index will allow you to lose weight, reduce your risk of diabetes, and lower your cholesterol, just to name a few.

The Glycemic Index is linked directly to the sugars in foods and how they are absorbed. The Index measures carbohydrates, which are made up of simple or complex sugar molecules. The Glycemic Index then ranks the effects these foods have on our systems.

You will see that by understanding these effects and adhering to some simple guidelines, you will be able to recognize foods by the Glycemic Index and make better food choices. You will see that many carbohydrates are very beneficial to you and that you do not have to avoid all carbohydrates as many celebrated diets suggest. Carbohydrates are not the villains that they have been promoted to be!

This report will go into depth to explain how high and low blood sugar levels effect your health and your feelings of well being. You will understand the direct link between the Glycemic Index and controlling diabetes or even substantially reducing the risk of becoming diabetic.

Also included in this report is a handy table of many common foods and their Glycemic Index rating along with easy-to-follow recommendations to take full advantage of the best food choices.

Once you read this report and become familiar with what the Glycemic Index is and how beneficial it is for everyone who follows it, you will find that making the best choices will come naturally to you. You will be able to control your Glycemic Index with little effort on your part.

## Chapter 2: What is the Glycemic Index?

The Glycemic Index is a rating system for foods where any type of carbohydrate has a numerical value assigned to it based on its components and how each food affects the body's sugar levels.

Dr. David Jenkins, a Canadian professor and scientist from the University of Toronto developed the concept of a rating index in March of 1981. He felt that a better system needed to be developed due to the popularity of certain diets like Atkins and South Beach that vilified all carbohydrates and many fats. He wanted to show that it was too oversimplified to categorize carbohydrates as "simple" and "complex" or even worse, as "good carbs" and "bad carbs". Most carbohydrates are too complex to label them in this manner.

He wanted to show the scientific community and thereby, the world that all foods affect our bodies' blood sugar levels differently and that they have many different degrees of being simple and complex, good or bad.

Basically, as food breaks down in our digestive system, many of the food's components, like sugar or vitamins and minerals are absorbed into our blood stream and immediately affect our system. Foods that break down quickly and have high glucose or sugar levels will give us a "spiked" feeling of energy and euphoria. This feeling is commonly referred to as a "sugar high". Other foods break down more slowly and release their sugars, starches and nutrients over a longer period of time, which avoids any sudden increases to our sugar levels and keeps our insulin levels low. Later in this report, we will explain exactly what glucose and insulin are and how they affect our bodies and our health.

Dr. Jenkins proved that many carbohydrates were, in fact, very healthy and should not be avoided simply because of the fact that they were carbohydrates. As a matter of fact, he discovered that there are dozens of foods that in the past were categorized as unhealthy, but that turned out to be very beneficial. He also encountered some surprising results on foods that had always been considered "diet" foods, but when tested, he discovered that they tested very high on the Glycemic Index. These surprising results will be uncovered later in this report.

Dr. Jenkins continues to work in the field of dietary science and pushes forward by continually pursuing the link between diet and health. He proceeds in proving the theory that eating certain diets can improve or eliminate the risk of health issues such as cancer, diabetes, and cardiovascular disease as well as other diseases.

## Chapter 3: How is the Glycemic Index in Foods Determined?

The Glycemic Index uses pure glucose (or in some cases, white bread) as its control food and rates all other carbohydrates in relation to it. The control food or standard, either the glucose or the white bread, is given a rating of “100” and all other foods are tested as to how they affect a person’s blood sugar, insulin and lipid levels compared to the standard.

Each tested food is given a number rating and defined as either “High”, “Medium” or “Low” on the Glycemic Index. Foods fall into the High Glycemic Index when they are rated at 70 or above. If the Glycemic Index for a food is at 55 or lower, it is considered to be a Low Glycemic Index food item. This means that Medium Glycemic Index foods are those that after being tested, fall into the range of 56 to 69.

The actual testing to determine a food’s Glycemic Index is very scientific and takes into consideration many test subjects who undergo multiple tests with the same food and with the control, that being glucose.

A test subject, after fasting for at least 12 hours will have their blood drawn and tested and then is given a specified amount of glucose, usually 50 grams. Their blood is drawn and the blood sugar levels are tested at several specified times throughout the rest of the testing period. This is to determine what the control level is in this individual. Many times, this exact same test of glucose is done two or three times in the same test subject in order to have a more exact result.

After all of the blood sugar levels have been determined, they are plotted on a graph, which shows the curve of how high the sugar levels rose and also how long they remained elevated. The next step is to take the same individual on another day, after another 12 hour fast and have them eat a sample of the food that will be tested. The amount in grams of carbohydrates in the test food must equal the grams of carbohydrates in the glucose control test. Depending on the item being tested, the amount of food that the test subject has to eat may be very little in the case of foods that are very dense in carbohydrates. On the other hand, the test subject may have to eat an enormous amount of a food that has very little carbohydrate in it in order to reach 50 grams of carbohydrates.

Let’s say that the test subject had to ingest pure glucose in the amount of 50 grams of carbohydrates. If the food item being tested were a banana, the test subject would eat the equivalent of 50 grams of carbohydrates in banana. Then, their blood would be drawn and tested at the same times as with the control test with the glucose. The results of their blood sugar levels would be entered on to the same graph as the glucose tests and the results would be compared.

These “banana” tests would be repeated over the next several days with the same test subject to ensure more reliable results. Now, imagine this same testing process with bananas being repeated over and over again with many different test subjects.

This is the testing that is done for every food that has any type of carbohydrate or sugar in it. Thousands of tests have been done to determine the Glycemic Index value of every one.

Let's get back to our "banana test". After all of the tests, both the glucose control tests and the specified food tests, have been completed the results are determined. The number for the glucose test is always set at 100 and the food that is being tested and compared to the glucose is graphed and measured up to how it affects the person's blood sugar levels in relation to the glucose. It was found that banana affects a person's blood sugar levels only 53% as much when compared to the levels that pure glucose affects them. Therefore, a banana is rated as 53 on the Glycemic Index, which puts it in the Medium Range.

Does that mean that bananas are bad for you and should be avoided? We will discover what the results of the Glycemic Index mean and how to easily incorporate them into your daily food choices later on in the report. First, let's look at the myth that all carbohydrates are bad for you and that they should be avoided at all cost.

## Chapter 4: Yes, There are Good Carbs

When doctors and scientists began to look at what makes up an average diet and why many people tend to gain weight and become unhealthy, they looked first at the government's food pyramid. They decided to put most of the blame on the base of that pyramid - whole grains and breads, otherwise known as carbohydrates.

The word carbohydrate has become a dirty word that advances the notion that anything that has carbohydrates, or sugars, fibers and starches should never be eaten. You may know someone who treats carbohydrates as if they are poison and can't even bear to look at or touch them let alone eat them. It has almost become a religion to eliminate all carbohydrates from our diets.

The food and restaurant industries, never ones to pass up on a new way to make even more money, immediately came out with new "low carb" items and packaging and restaurants remade their menus to feature "low or no carb" selections. In many cases, they serve many of the same items, but simply eliminate the bun, french fries or potato and charge even more for the "new" menu item. Their profits have never been higher.

But, is this way of thinking too simplistic? Are all carbohydrates bad for you and furthermore, are they all "bad" to the same degree? That is what the developers of the Glycemic Index set out to prove. They wanted to see hard, scientific evidence that would prove if all carbohydrates were unhealthy. What they found was very astounding. Not only did they discover that different carbohydrates affect people's blood sugar levels and release of insulin to different degrees, they were also surprised to discover that many carbohydrates that had been considered "bad" really weren't and others that had seemed "healthy" spiked blood sugar levels tremendously.

An example of that could be watermelon. It is considered a good source of vitamins and healthy and very low in calories, right? However, its Glycemic Index number is 70! That puts it in the High range. The reason behind this is that although watermelon does have very few calories, it is very high in natural sugar and spikes your blood sugar levels forcing your body to release insulin to counteract and lower these levels. Later, we will discuss the consequences that happen to your body when it has to continuously release insulin in order to try and keep your blood levels as even as possible.

On the other hand, items such as artificially sweetened yogurt, peaches and peanuts all score below 30, making them better choices when following a Glycemic Index diet. This means that they will not spike your blood sugar levels and may release energy slowly, instead over a longer period of time. This type of food will give you more energy and keep you feeling satisfied longer. There are many examples of carbohydrates that are good for you that will be covered in the coming chapters.

## Chapter 5: What are the Effects of Glucose?

Glucose, in its purest form is a simple sugar that is found in many foods. Our body uses glucose to produce the energy or fuel to help it function. Glucose is a molecule made up of several cells that can be extracted from starchy grains such as wheat, rice, corn and potatoes, to name a few. Once glucose has been extracted from these plants, it can be added into any number of food processes to sweeten and enhance their flavor.

In the United States, the most common glucose food additive is derived from corn or more commonly called cornstarch. Cornstarch is heated in a water solution for a few hours at a relatively low temperature, which results in breaking down the starch into even smaller particles. Then, a common species of fungus is added to the mixture, which promotes the starch to break down to its basic element of glucose. The mixture is then purified and concentrated until the glucose is in crystal form. These crystals are packaged into cubes and sold to the food industry.

There are many other forms of sugars that could be used in food packaging, such as fructose, which is derived from fruits, some vegetables and honey. Fructose is sweeter than glucose and is recommended as an alternative for people with diabetes, but where every cell in the body can metabolize glucose, fructose can only be processed in the liver. All forms of sugars, both simple and complex raise the blood sugar levels and can cause a form of insulin resistance.

When a body ingests glucose or any carbohydrate (all carbohydrates are made up of mostly starches and sugars), it breaks it down into its simplest forms and uses them for energy. Most of the body's energy is produced from carbohydrates. The sugar molecules are broken down and convert into oxygen and carbon dioxide molecules, basically keeping our body functioning. This transformation translates into our metabolism. Our metabolism is how efficiently our body can turn these foods into energy.

Glucose is also one of the primary sources of energy for the proper function of our organs and our brain. This may explain why there is such a feeling of euphoria after ingesting a food item that is very high in glucose.

Many people complain of being dizzy and lightheaded when their blood sugar levels are either too high or too low. The human body tries to keep itself on an even keel and when we overfeed it with sugar or do the opposite and don't feed it enough of the energy it needs, it will try to overcompensate. That is when the body will release insulin to try to compensate for our actions.

Either way, we will feel symptoms. First, we will feel the immediate reaction from either too much glucose or from what we did to our body by under eating. Next, we will then suffer from the counteractions that our body has to perform in order to react to our original actions. Seems like a vicious circle doesn't it?

This is why knowing a little bit about how our bodies work and what insulin is and what it does comes in handy. The next chapter will go into detail about insulin and there you

will realize what a valuable, yet fragile, tool insulin is and how easily we can damage our insulin response forever.

## Chapter 6: The Facts about Insulin

Insulin is a hormone that is produced and released from the pancreas. Its major responsibility is compared to that of an air traffic controller. It lets the body's cells know when they have been fed sufficiently and need no further nutrients. (Doesn't that sound familiar? Not even our cells know when to stop eating!) Next, insulin re-supplies and routes all extra glucose from your meal into the liver and the muscles to be stored shortterm as a kind of "fat" to be used first before all other fat deposits when energy is needed again. In other words, every time you overfeed your body with too many sugars, fats, or proteins, your body stores these extras and burn them instead of all of the extra weight and fat that you already have deposited on your body

Eating a lot of high Glycemic Index foods on a regular basis forces your insulin to continuously be released. Calling upon your insulin to react to all of this glucose can cause something called "insulin resistance" where your insulin cannot keep up with the workload and simply diminishes.

People who have no insulin response or if they have very low insulin levels released are considered diabetic. Their bodies cannot digest and route glucose or for that matter, any sugar or carbohydrate and they must provide their bodies with an artificial atmosphere by receiving injections of insulin every day.

The complications of diabetes are enormous and will be covered in more depth later in this report. If you are not familiar with diabetes, please, take the time to research it even after reading this report. It is so common that people seem to "play it down" as if it is no big deal. It is a very big deal. Diabetes can lead to so many serious complications and ultimately death.

But, there is hope. By following the recommendations of the Glycemic Index and then by going even further with Glycemic Loading and incorporating the Insulin Index, you may avoid the risk of developing diabetes altogether. The next chapter will go into even more depth of how to avoid diabetes with the Glycemic Index.

## Chapter 7: The Glycemic Index and Diabetes Connection

As we have learned it isn't only cakes, cookies and candy desserts that contain sugars and raise our blood sugar to dangerous levels. Any food that is considered a carbohydrate is made up of starches and sugars. Foods that you would never imagine being "sweet" are full of glucose, dextrose or sucrose. Foods like baked potatoes, pretzels, beets and even some lean meats can raise your blood sugar levels very high, which then forces your body's insulin levels to spike, as well.

When the body's insulin becomes over worked and no longer responds to high blood sugar levels, it will begin to show symptoms of the disorder. The symptoms of diabetes include being extremely thirsty all of the time, which leads to drinking a lot of fluid and in turn, excessive urination. When the insulin levels are barely there anymore, people also complain of blurry vision, leg cramps and open sores.

There are two types of diabetes, simply called "Type 1" and "Type 2". Type 1 is the more serious of the two. People who are diagnosed with Type 1 Diabetes no longer have any insulin response to counteract their sugar levels. The body cannot survive for long without insulin, because it is impossible to avoid foods that raise our blood sugar. Mainly because sugar and starch are our body's main sources of energy and it is found in nearly every food. But insulin is required to direct the cells and tell them how to deal with the fuel they are receiving. Without insulin, the body malfunctions and cannot handle the incoming energy.

Therefore, people who have Type 1 Diabetes must be supplied with artificial insulin on a daily basis through injections and also they must constantly be aware of what they are eating and in addition, they must monitor their blood sugar levels several times throughout the day. It is not an easy life.

Type 2 Diabetes is also very serious and means that there are some levels of insulin present, but it doesn't do the job it was meant to do as effectively anymore. People with Type 2 Diabetes can usually control their disease with diet, exercise and medication, and also may have to continuously monitor their sugar levels. Unfortunately, many people do not take it seriously enough and many times the condition deteriorates.

Excessive eating of High Glycemic and High Insulin Index foods is a major cause that leads to the failure of the insulin response. It is vitally important not to overwork the intricate workings of our bodies.

If you are not a diabetic, it is not necessary or even recommended that you avoid all carbohydrates and sweets forever, but moderation must be the key. Try to limit yourself to foods that are categorized as Low Glycemic Index foods. Eat less of foods that are listed as Medium on the Glycemic Index. And finally, of course you may eat of any food that finds itself listed as High on the Glycemic Index, but only have one of those choices every once in a while - not every day.

Once the damage has been done and you have been diagnosed with diabetes, it is too late to reverse it with a proper diet. Diabetes is a chronic condition and once insulin is

no longer being produced, it does not heal itself. It is so much easier to eat properly now rather than have to confront the complications that diabetes can throw at you.

Some of the scary complications and risks that come along with diabetes are hypoglycemia, which is an inadequate supply of glucose that can create neurological problems. (Isn't it ironic that eating too much glucose can result in diabetes, which in turn can result in complications from too little glucose!) Other complications from diabetes are blindness, heart disease, impotence, and nerve damage. The other major complication from diabetes is how slowly wounds take to heal. Because of this, injuries can become infected and it is quite common for diabetics to have to have amputations of limbs because of this.

As you can see, even though many people suffer from diabetes and it is something that can be treated and lived with, it is a very serious condition that requires daily vigilance to keep it under control and even then many complications can still arise.

Following the Glycemic Index now will lower your risk of ever developing diabetes. More of how to do this will be covered in the upcoming chapters.

## Chapter 8: Incorporating the Insulin Index

The Insulin Index is almost a duplicate of the Glycemic Index. The difference is that during the testing, insulin levels in the blood are tested instead of the blood sugar or glucose levels. The results are very similar. The differences are that when testing foods for raised insulin levels, many proteins and even lean meats were found to raise insulin levels as well.

Following some basic guidelines can incorporate the Insulin Index into the Glycemic Index very easily.

Foods that are very rich in protein such as most cuts of beef and lamb, eggs, shellfish and hard cheeses can mimic a sugar response in the body as they break down. These foods are very rich in protein, vitamins, minerals and many essential nutrients and therefore, should not be avoided completely. Still, a person's diet should not be made up of primarily these choices and not on a regular basis.

As with any advice, it is always wisest to do everything in moderation. Even the healthiest food choices would be detrimental if they were the only foods that a person ever ate. Our bodies need a variety and in fact, the only way to accomplish a task such as losing weight is to keep the body guessing. Our bodies are made to try to adapt to any conditions they are put under. Therefore, if we starve it, it will still manage to hold on to every last pound of fat in order to survive and in the process, allow other functions to suffer.

Just because we cannot see the damage we are causing to our systems when we overindulge in high fat and high sugar foods does not mean that we are not causing major bodily malfunctions. It is probably true that binge eating, even for a prolonged period on poor food choices may not immediately result in our succumbing to a disease or serious condition. But, we may not realize that the little things that we are suffering from, things like insomnia, headaches, weight gain and moodiness can be traced back to what and how much we are eating and how hard our bodies are working to correct all of the imbalances.

Both the Glycemic Index and the Insulin Index are working toward the same goal. They both strive to inform people of the intense reactions and hard work that our bodies must go through to process every mouthful of food that we eat. And when we make mostly poor choices, we force our bodies' to work even harder until eventually one or more of the systems eventually fail.

Our bodies are like any complicated machine. For example, if we overwork our vehicles and never do maintenance on them, they will eventually break down. And when our vehicle breaks down, it may not have given us any big clues that it was ready to quit on us. The same thing can be said of our bodies. We may not notice any changes when our insulin levels are through the roof, but your pancreas, your liver, heart and brain are all feeling the strain and trying to keep making adjustments to what you are eating and to your lifestyle choices. Unfortunately, even the strongest body will ultimately crack under the pressure.

What is frightening is that when our insulin levels cannot counter the high blood sugars in our system any more, the results are extremely serious: diabetes, heart disease and heart failure, liver and pancreas problems, and increased weight.

On the other hand, following the recommendations of making most food choices from the low ranges of the Glycemic and Insulin Indexes can result in noticeable improvements to your health. So, not only can you reduce the risk of all of the above mentioned diseases and conditions, you can actually improve your heart health or lower your weight and become a much more healthy person overall.

## Chapter 9: Glycemic Index Benefits: Weight Loss

Let's start this "Benefits" section of the report with the benefit that is most noticeable. Our weight. Sure, we want a healthier heart and lower cholesterol and all that, but mostly we want trimmer thighs and hips and a smaller gut. Right?

Weight loss is one of the great side benefits to following the recommendations of the Glycemic Index. While the main reason for its development was to control our blood sugar from severe dips and spikes and allow our insulin levels to remain more constant, the fact is that the food choices we make when following the Glycemic Index are foods that also allow us to lose weight naturally - and even better, keep it off easily.

The reason why is because foods that keep our sugar and insulin levels on a healthy and constant plateau are the same foods that are also giving us a longer, more constant feeling of fullness and satisfaction. When our energy levels are kept "fed" on a more continuous basis, we do not feel the need to keep eating.

Everyone has had that feeling of euphoria after eating a food high in sugars and carbohydrates, but unfortunately, along with that "high" comes the equal and sometimes unbearable low. This "bottoming out" happens every time and yet we put our bodies through this sort of situation so often that we don't even recognize it. We seem to be continuously confused as to why we are "hungry" again so soon after completing a meal, snack or binge that was made up of foods from the high end of the Glycemic Index. We don't realize that we aren't really hungry it is just that our hormones have just gone on such a roller coaster ride that we are trying to adjust them.

Just as a pendulum swings back and forth, our bodies react to one extreme by trying to correct it, which swings the pendulum back in the other direction. These extreme actions and reactions are the conduct that will destroy our health and keep us from losing weight successfully.

Of course, along with any change you must prepare for it mentally. Even though logically we know that what we are doing is harmful to our body it has become such a habit that we may feel helpless to break the cycle. Because as much as we hate it when our blood sugar levels are low, which leaves us feeling down and depressed, we absolutely adore those feelings of euphoria that comes with dangerously high blood sugar.

It will definitely take some time and some hard work at first, but once you learn to focus your joys on things other than food and on the way food makes you feel, following the Glycemic Index will be effortless.

## Chapter 10: Glycemic Index Benefits: Reduced Diabetes Risk

The direct link between the Glycemic Index and diabetes was covered quite a bit in chapters 7 and 8, but there is still quite a lot to say. The previous chapters went into some detail about the risks that we take when we overwork the hormone insulin and all of the complications that can arise from choosing foods that keep taxing our glucose and insulin levels.

The good news is that by following the Glycemic Index, you can virtually eliminate your risk of contracting diabetes. The Glycemic Index protects your insulin response from becoming overtaxed, which in turn keeps your heart, brain and other organs healthier.

In fact, focusing most of your diet on foods from the low Glycemic Index list can even make your insulin more responsive and sensitive. This is a very good thing. Having insulin that can react promptly and efficiently to anything you feed your body will result in you being a much healthier individual overall. Think of it as a workout routine for your insulin. Eating right and making the best choices will have your internal systems and organs looking and working as good as the outside of you will look.

If you also add exercise, even light activity for a very moderate 20 minutes per day to your healthier lifestyle, you increase your odds of warding off diabetes forever. In addition to that, there isn't one disease or condition that you may ever suffer from that is not improved when you add regular, moderate exercise to your daily routine.

Diabetes is not a disease to take your chances with. It changes and complicates the rest of your life, and although it can be kept in check for the most part with strict diet regulations and medication, it is still not a condition that anyone would ever want to contract.

If for no other reason, begin practicing the recommendations of the Glycemic Index to better protect you from developing this disease. If you are someone whose family history is full of relatives who have suffered and are suffering from diabetes, then this report is especially needed. You, of all people can see what diabetes does to people especially to people you love. Don't become another member of this terrible club.

Begin making better choices today. You don't have to change everything all at once. Start slowly and make small changes every week until a year from now you will be able to look back and see a completely different person not only on the outside, but on the inside as well.

## Chapter 11: Glycemic Index Benefits: Improved Heart Health

It seems like a stretch to imagine a link between eating foods high in starches and sugars and heart disease, but the link is most definitely there. Every time you overindulge in high Glycemic Index foods, your entire system has to go into “High Alert” in order to bring your system back down to more normal functions.

Since sugars and starches are our body’s main sources of energy, when we ingest these types of foods, our bodies try to either use it all or store whatever can’t be burned as a quick source of needed fuel. When we overdose on high Glycemic Index foods, we are asking our body to work that much harder. Every system in our body begins feeling the burden we have just given it. Our blood pressure increases in order to move the sugar and insulin in our bloodstream as fast as it can. Along with that, our heart must go into “marathon mode” in order to keep all of the blood moving and to increase the oxygen needed to perform all of these functions.

Even hearts of healthy marathon runners can give out unexpectedly. It isn’t a stretch to imagine that when the heart of a person who isn’t quite as healthy, who is overweight, doesn’t exercise and who continuously feeds their body food that keeps it unhealthy - it just isn’t hard to imagine this poor heart wearing out.

It was found that people who continued diets high on the Glycemic Index were twice as likely to have a heart attack or develop heart disease within the next decade as those who followed a diet based on foods that were lower on the Index.

And if you are a woman, you must become even more aware of the threat of heart disease and strokes. Women have now surpassed men in the number of heart attacks, strokes, and in the number of deaths. Women are more likely to die within five years of suffering a heart attack or stroke than a man is. In fact, the numbers show that almost twice as many women die from coronary attacks every year than men do. Heart disease and strokes kill more women every year than all of the cancers combined.

As you can see, this isn’t a situation to be taken lightly. Knowing that there is a way to improve your heart health significantly should be a major priority in your life. Especially if you are someone whose family history includes a lot of family members who suffer from heart attacks or strokes.

Again, focusing your diet on mostly foods from the low Glycemic Index list will significantly improve your heart’s health and may increase your life span by many healthy years.

## Chapter 12: Glycemic Index Benefits: Lower Cholesterol

Most of the foods that you will find on the low end of the Glycemic Index are foods that are higher in fiber and lower in fat and calories. These are exactly the right types of foods to eat in order to keep your heart healthy and your cholesterol low.

Cholesterol is a trace molecule found in food that travels in our bloodstream and helps with some very important tasks. One of its jobs is to help re-form the membranes of certain cells. Another of its jobs is to help in the creation of certain steroid hormones that the body needs to function.

If we never ingested any cholesterol our bodies would suffer. But, there is a difference between “good” cholesterol and “bad” cholesterol. Bad cholesterol is known as LDL, while good cholesterol goes by the initials HDL. These two different types of cholesterol although very similar in make up are very different when it comes to how they affect our bodies.

Having high levels of HDL in our systems actually helps lower our overall cholesterol levels and keeps our arteries clear and our heart running smoothly. The opposite is true when a body is tested and shows high levels of the cholesterol LDL. This is the harmful cholesterol that clogs arteries and causes instances of heart arrhythmia, heart attacks, and strokes.

The amazing thing about all of this is that the main supplier of this cholesterol to our body is the food that we eat. We are doing this to ourselves! If we decide to eat foods that are very high in hydrogenated fats, (that is, fats that do not dissolve or break down easily and that contain high amounts of LDL cholesterol) then we are endangering our own health and playing Russian roulette with our lives.

By following the Glycemic Index, you will be choosing foods that along with helping you to lose weight and reduce your risk of ever developing diabetes, will also help to lower your cholesterol which in turn, will virtually eliminate a plethora of other health issues.

Another health issue that people may suffer from who have high levels of cholesterol are gallstones. When there is an excess of cholesterol, the liver tries to process as much as it can and the excess is absorbed into the other organs of the body. Once in these other organs such as the gallbladder, the cholesterol can sit and harden and develop into very painful gallstones that in some cases may need to be surgically removed.

Doctors are beginning to agree that testing for cholesterol levels should be made more on a “ratio basis”. The ratio that is becoming widely accepted is 5:1. That means that for every measurement of one particle of bad cholesterol (LDL), we should have at least five particles of good cholesterol (HDL) in our blood.

The Glycemic Index will help you realize the goal of increasing your amount of good cholesterol while at the same time decreasing the bad. This happens because the food that you are putting in your body is keeping your systems running smoothly without any spikes or dips. When your body doesn't have to use all of its resources to try to

overcompensate for the bad food you feed it, it can spend more time dealing with other things. Things like burning extra storage cells of fat and keeping our arteries clean and our heart healthy.

## Chapter 13: Go One Step Further with Glycemic Loading

Remembered back in Chapter 3 when we talked about how a banana rates on the Glycemic Index scale? It was a 53, which meant that it fell in the medium range of the Glycemic Index. Now, what if you ate two bananas? Does that mean you have doubled its Glycemic Index and now the rating is double or 106?

No, the Glycemic Index rating always remains constant or the same, but you have doubled the amount of carbohydrates and sugars that your body now needs to process. On the other hand, if you ate one banana now and after about four hours, when the first banana has completely digested, you ate another banana, your system would not have to work twice as hard.

This may seem a little confusing at first, but it is just common sense. Likewise, if you only ate half a banana you would be decreasing the amount of sugar or glucose that your body would have to process, but the Glycemic Index would still be 53.

The Glycemic Load takes the Glycemic Index a little further and is a formula that figures the relationship between the Glycemic Index and the amount of carbohydrates that is in each food.

When testing was done for all of the foods for the Glycemic Index, the measurement that was used was almost always 50 grams. In some cases, that was a lot of food. Considerably more than a person would typically eat as a serving. Although, this was necessary in order to keep the test results consistent, it can sometimes make it a little confusing to understand.

Let me see if I can explain it a little better. The control food for all of the Glycemic Index testing was 50 grams of pure glucose, which is a carbohydrate. So that means that every item of food that was tested had to compare and be equal to 50 grams worth of carbohydrate. That doesn't mean that they weighed enough carrots until it was 50 grams in weight, it meant that they had to eat enough carrots until they had consumed 50 grams worth of carbohydrates in the carrots. That's a lot of carrots!

Just to make it even clearer, a half a cup of cooked carrots only has 8 grams of carbohydrates. That means that each test subject had to eat over 3 cups of cooked carrots in order to equal 50 grams of carbohydrates! Eating 3 cups of cooked carrots all by yourself in one sitting would be like eating a large bag of those peeled baby carrots as a single serving.

In contrast, the Glycemic Load will take the information gathered from the Glycemic Index and calculate it to reflect a more reasonable serving size. And in so doing, the rate number will be substantially reduced and many items that are on the high end of the Glycemic Index will make more sense

The Glycemic Load gives you a more realistic overview of each food on the Glycemic Index and allows you to practically apply this information into your daily diet. Later, in chapter 15 we will discuss the easy formula and how you can calculate the Glycemic Load for any food that you eat.

## Chapter 14: How to Recognize Low Glycemic Index Foods Easily

Many of the foods that are considered low on the Glycemic Index are going to look very familiar to you. In fact, you may have to shed some of your old ideas about these types of foods been nothing but “diet” foods. The types of food you are going to find as being categorized as low on the Glycemic Index are all foods that are healthy, delicious, and keep your blood sugars level and your body running smoothly. And did I say that these choices were delicious? Indeed, they are. Forget about the old-fashioned “diet plate”, these foods are foods that you are going to want to eat.

Some of the characteristics that will help you recognize if the food is a low Glycemic Index choice are if the food is comprised of whole grains or an abundance of fiber. This includes breads, pastas, rice, low fat milk and yogurt and practically every variety of bean or lentil. Also, you can't go wrong if it is a fresh vegetable or fruit.

Before you know it, you will be able to look at a food and just “know” if it is one of the magic foods that will help you lose weight, reduce your risk for diabetes, promote a healthier heart and lower your cholesterol. Once you become familiar with these types of foods, you will be amazed that there aren't spotlights on these foods in the grocery store (or at the very least, have little halos hovering above them.)

## Chapter 15: How to Calculate the Glycemic Load of any Food

As we stated in Chapter 13, the Glycemic Load is a way of ranking every food that you eat in order to determine even more information than the Glycemic Index shows.

Calculating the Glycemic Load is a simple matter of multiplication. You simply multiply the food's Glycemic Index rating with the number of grams of carbohydrates it contains in the serving size you are eating. If the food's Glycemic Index Rating is below 100, use a decimal point to show that it is less than one. For instance, a baked potato has a high Glycemic Index rating of 85. The number of grams of carbohydrates in a medium baked potato is 37. By multiplying .85 and 37, we get just over 31. Therefore, a baked potato has a Glycemic Load of 31, making it a better choice in our daily diet.

This is a great example that shows how the Glycemic Index has provided us with an abundance of useful information and how the Glycemic Load can take that information and make it more practical for us to use on a daily basis.

The average range in the Glycemic Load is lower than the Glycemic Index. A food may be considered pretty high on the Glycemic Load ranking if it is above 50.

Let us now figure the Glycemic Load of the carrots we discussed in Chapter 13. As we mentioned, it would take over 3 cups of cooked carrots to eat 50 grams worth of carbohydrates. Carrots as you may remember have a Glycemic Index rating of 39. A typical and more realistic serving of cooked carrots would be about 1/2 cup and this serving contains 8 grams of carbohydrates. Therefore, we multiply 8 (grams of carbs) by .39 (the Glycemic Index in decimal form) to get a Glycemic Load of 3 !!! This shows that eating carrots is an even better choice than the Glycemic Index reveals.

The best recommendation is to keep the total number of your daily Glycemic Load to fewer than 150. This is much easier than counting calories or fat grams and it ensures that you are making the best choices.

You can find the information on how many grams of carbohydrates are in all of your food by looking at the nutritional label. Use the number listed there to multiply with the Glycemic Index rating and be able to further enhance your weight loss and improve your health.

## Chapter 16: Glycemic Index Table of Common Foods

Use the Index ratings listed here for common foods as a guide to help you make the best dietary choices every day. To begin with, let's look at some of the most common foods that are considered high on the Glycemic Index. Usually, these are foods that you will want to limit and only eat occasionally. You will notice that there are a couple of foods that look out of place. Baked potatoes, rice cakes, and watermelon are all on the dreaded "high" list and yet, they all seem like very healthy choices. "What are they doing on this list?" you might ask.

As stated before in previous chapters, in order to keep the testing consistent and scientific all foods had to be tested in equal amounts of carbohydrates. This means that watermelon, which has very low amount of carbohydrates, had to be consumed in massive quantities in order to keep the test results equal. But, watermelon also has a lot of natural sugar and sweetness, which when eaten in such a large quantity raised the blood sugar levels significantly. This is where the Glycemic Load value becomes an invaluable tool. When we calculate the Glycemic Index of watermelon, which is .72 and multiply it by 5 grams of carbohydrates in a typical slice of watermelon, we get a Glycemic Load value of 3.6. So even though it is listed as a high Glycemic Index food, we find that when it is consumed in a typical serving size it does not raise our blood sugar levels to the extent as on the list.

The same is true of rice cakes and potatoes, but to a lesser extent. They do raise blood sugar levels more than whole grain pastas and brown rice, but they are also loaded with so many nutrients and vitamins that it isn't wise to avoid them altogether. Use good judgement and common sense when you make your food choices. Remember that this doesn't have to be hard or take a lot of thought once you get the idea. All it takes is being aware of how your body functions and what we can fuel it with that will help it to operate rather than work against it.

Also, in case you are wondering, Gatorade is on the list as a high Glycemic Index food because as an energy drink it is made up mostly of carbohydrates and sugars, which replenish a body after it has exerted an enormous amount of energy. But, as a high Glycemic Index food, you would want to limit how often you drink it. (Unless you have suddenly become a professional athlete or a long-distance runner!)

Here are some common High Glycemic Index foods.  
Remember to limit them as much as you can.

<b>HIGH GLYCEMIC INDEX FOODS (OVER 70)</b>	
<b>FOOD</b>	<b>INDEX RATING</b>
Bagel	72
Baked Potato	85
Cheerios	74
Cream of Wheat	74
Doughnut	76
French Fries	76
GatorAde	78
Graham Cracker	74
Honey	73
Jelly Beans	80
Mashed Potatoes	73
Rice Cakes	82
Rice Crispies	82
Rye Bread	76
Vanilla Wafers	77
Watermelon	72
White Bread	70

Now let's take a look at the medium Glycemic Index list of common foods. These are foods that you may still want to limit, but definitely choose them more often than you would a choice from high Glycemic Index list.

Always remember that if you see something on one of the lists that look "too good to be true" it probably is. That is when it is best to calculate the Glycemic Load value.

Also, if you see something that you'd always thought was very healthy, but now you see it listed pretty high, remember the testing process and how much of that food they may have had to test in order to keep the playing field level. If you are unsure of the index rating always calculate the Glycemic Load of the food item in order to get a better idea of its value.

Here are some common Medium Glycemic Index foods. Remember to choose these more often than those on the High Index list.

<b>MEDIUM GLYCEMIC INDEX FOODS (56-69)</b>	
<b>FOOD</b>	<b>INDEX RATING</b>
Angel Food Cake	67
Beets	64
Blueberry Muffin	59
Bran Muffin	60
Cheese Pizza	60
Couscous	65
Hamburger Bun	61
Ice Cream	61
Mac & Cheese	64
Mini Shredded Wheat	58
Oatmeal	65
Orange Juice	56
Pea Soup	66
Peaches, canned	58
Pineapple	66
Pita Bread	57
Raisins	64
Rye Bread	68
Sourdough Bread	57
Taco Shells	69
Wheat Thins	67
White rice	56
Whole Wheat Bread	69

And now for the list of foods that score with the lowest values on the Glycemic Index. These are the foods that should be chosen most of all. Most meals should be made up of these items and other items that are similarly rated.

As with the other lists, you may see some items that surprise and confuse you. For instance a Snickers Bar? On the Low Glycemic Index list?

Remember that it took 50 grams of carbohydrates to compare with the control, which was 50 carbohydrates of glucose. It only takes a small portion of a Snickers bar to equal 50 grams of carbs. That means that the small amount of candy bar that they did the tests with did not raise the blood sugar as much as the large portion of watermelon that had to be tested.

Once we calculate what rating a Snickers Candy Bar would get with the additional information given to us through Glycemic Loading, a Snickers Bar gets a rating of 80! That is huge when you figure that you will want to keep your total Glycemic Load points for the day below 150. With this one candy bar you have used up more than half of your allotted food for the day.

Here are some common Low Glycemic Index foods.  
Remember to choose these most of all.

<b>LOW GLYCEMIC INDEX FOODS (UNDER 55)</b>	
<b>FOOD</b>	<b>INDEX RATING</b>
Brown Rice	55
Apple Juice	41
Baked Beans	48
Banana	53
Broccoli	6
Carrots, cooked	39
Cauliflower	6
Cheese tortellini	50
Cherries, fresh	22
Chocolate	49
Fruit cocktail, canned	55
Grapefruit	25
Grapes	43
Ice Cream, low fat	50
Kidney Beans	52
Kiwifruit	52
Lentils	28
Lettuce	7
Linguine	55
Lowfat Yogurt, sweetened	33
Macaroni	45
Milk, fat free	32
Milk, Soy	30
Oatmeal Cookies	55
Oatmeal, old fashioned	49
Orange Juice, fresh	52
Peach, fresh	28
Peanuts	14
Peas	48
Popcorn	55
Potato Chips	54
Pound Cake	54
Snickers Bar	40
Spaghetti	41
Special K Cereal	54
Spinach	12
Sweet Corn	55
Sweet Potato	54
Tomato	15

This is not a comprehensive list by any means. It would take hundreds of pages to list every food there is and its Glycemic Index. But, it gives you an idea of the types of food choices to make.

Following the Glycemic Index effortlessly should be just that - effortless. You shouldn't have to feel that you need to log every item of food that you eat or look up everything in some dictionary-sized book. Neither should you have to walk around with a calculator before you eat a mouthful. By familiarizing yourself with these foods that are listed and some general guidelines, you will become "Master of your Domain!" Or at least, "Master of the Glycemic Index Domain"!

Speaking of domains. If you have a favorite food and you just cannot imagine where it would fall on the Glycemic Index or the Glycemic Load rating, as of the writing of this report, the website <http://www.glycemicindex.com> has a free searchable database that stays updated with thousands of food items. Once you have the Glycemic Index rating, you can very easily calculate its Glycemic Load. This way you can get an even clearer picture of how worthy that food item is to either remain as one of your favorites or if it should only be eaten on an occasional basis.

In the next chapter we will discuss some of the general guidelines to practice when following the recommendations of the Glycemic Index. Along with many helpful guidelines about what to do will be quite a few cautions and bits of practical advice to help you get the most out of the Glycemic Index.

## Chapter 17: “Do’s” and “Don’ts” of Following a Glycemic Index Diet

**Do** choose whole grains over processed whenever you can. This means looking for the words “whole grain”, “whole wheat”, etc. on all of your food’s packaging.

**Do** enjoying as many fresh fruits and vegetables as you possibly can every day.

**Don’t** mix too many foods together. Try to eat as many foods as you can alone and in their natural state. For example, the banana with a Glycemic Index rating of 53 will change if you add peanut butter to the banana or dip it in chocolate.

**Do** look at the “whole picture” when choosing your food items. Consider all of its characteristics. A food choice that may be listed on the medium or high Glycemic Index may have so many vitamins and minerals that it may be the best choice.

**Do** try to have at least one food from the low Glycemic Index list at every meal.

**Do** add vinegar or a no-fat vinaigrette dressing to your food whenever possible since vinegar is acidic and lowers the food’s Glycemic Index rating (because it slows down your digestion.)

**Don’t** over-eat or take too large of portions. Doubling a portion size doubles how hard that your system has to work, which causes more insulin to be released.

**Do** try as many foods as you can from the low Glycemic Index list. You may be surprised to find some delicious choices that you have never tried before.

**Don’t** completely forget about fats and calories. Just because something is low on the Glycemic Index, for instance peanuts, doesn’t mean that it is the best choice to be eating often. It may not raise your blood sugar, but it will certainly pack on the fat and calories.

**Do** choose foods that are high in fiber. The higher the fiber the longer it takes to digest, which will leave you feeling fuller longer and keep your blood sugars at a steady level for hours. Aim for between 26-35 grams of fiber per day!

**Don’t** forget about beans! (This should be embroidered on a pillow in every home!) Most beans fall in the low Glycemic Index and are packed full of nutritional value. If you are worried about embarrassing gas from eating a diet rich in fresh vegetables, fruits and beans there are many products that can counteract that problem.

**Do** start the day with a great breakfast of low Glycemic Index foods. Be sure to choose whole grains and fresh fruits and vegetables. Beginning your day this way will make it easier for your blood glucose levels to remain constant throughout the rest of the day.

**Do** try to eat your meals at regular times and on a regular basis. Just as a car runs better when maintenance regularly, so do our bodies.

**Don't** overindulge in unhealthy items such as salt, caffeine or alcohol. Your body has a very hard time correcting the imbalances that these items cause.

**Do** be aware of the types of fats that you choose. While fat is a necessary nutrient, some are better choices than others are. Try to use fats that are better for your heart like olive oil and canola.

**Do** eat a variety of good foods every day. Our bodies adjust to foods and by eating differently all of the time it keeps our system "on its toes" and in shape.

**Don't** become discouraged. Even the easiest changes are still changes. We are creatures of habit and we struggle against any change. Be aware of your feelings and put them in perspective.

**Do** look for "coarseness" in your food choices. Food that hasn't been over-processed will appear to have more texture and will result in lower Glycemic Index numbers.

**Don't** avoid some of the healthiest food choices like beets, cabbage, Swiss chard, Pomegranates, and prunes. Find ways to incorporate them either fresh in salads or sandwiches, cooked as a side dish or squeezed in a juice.

**Do** plan your menus, shop with a list and buy plenty of fresh fruits and vegetables when they are in season.

**Do** invest in a large variety of herbs and seasonings and experiment with them to add new and exciting flavors to your meals.

**Don't** fry your foods in oils as much as using other methods like baking or boiling or steaming.

**Do** look up new Glycemic Index recipes to try in order to keep your meals interesting and fun

**Don't** be afraid to eat out. Choose the simplest prepared dishes and items where you can control what goes on them or in them.

## Chapter 18: In Conclusion

Following the guidelines recommended by the Glycemic Index is effortless once you become familiar with it. You will soon come to realize that it doesn't prohibit you from eating any food that you choose, it only recommends that you make the best choice you can in most situations because your body deserves it.

In the perfect scientific conditions the Glycemic Index is infallible. However, our lives are not as regimented as a laboratory. This means that in many outside factors can influence the Glycemic Index. As stated earlier in the report, eating foods together with other foods can change the Glycemic Index. But that doesn't necessarily have to be a bad thing. It works for the good, too. If you choose a higher rated item and eat a low rated food with it, you will lower the Glycemic Index value of the higher rated food.

In fact, rather than eat a high Glycemic Index food by itself either as a meal or as a snack, it would be better to add a low index food to it in order to slow your digestion down and help your system deal with the higher blood sugar.

Also, the way in which food is prepared can skew the Index. But the basic premise is there and the Glycemic Index does not lose its value because it is still providing us with invaluable information.

Even if the Glycemic Index values become "off" by a few points, they are still letting you know which foods are better for your system than others. And the whole purpose of the Glycemic Index is to help you live your life while effortlessly choosing the best foods and becoming healthier every day.

There are still going to be some of you who will need a little bit more structure. That is fine and very understandable. It is going to be hard to make some of these changes and break some of the lifelong habits that have been formed.

If, in the beginning you find that you want to spend more time and become even more aware of how your food choices affect your blood glucose levels you could purchase a blood glucose meter and test your glucose levels at the same time after every meal. These meters are the same ones that diabetics use to test their blood sugar levels. They can be a little expensive and they aren't really necessary, but if you would feel better knowing exactly how certain foods affect your system it may be a worthwhile investment.

But do not rely on this sort of behavior for a long. Learn what you need to know and move on. Lifelong changes will not happen if every time you have to eat it is a chore. Eating should just be a natural response to hunger. That is probably the hardest thing to learn. Food is so wrapped up with emotions and social situations that it will be hard for our brains to disconnect these bonds.

If you are going to spend a lot of time exerting tons energy on anything related to following the Glycemic Index recommendations, it would be best to focus all of your energy on dealing with the emotions that you will encounter when you try to break established habits. This is where we sabotage our own actions. Invest in books or

videos that will help you to deal with the anger and stubbornness that you will begin to exhibit once you start making changes.

There are many good books and websites and support groups that will help you to overcome these emotional issues. And always remember that no matter how hard it seems to be to live a healthier lifestyle (at least, at first) instead concentrate on how much harder it is on your body to fix itself if you continue making the food choices that you are currently making.

The best thing you could ever do is to start now and learn how to control your Glycemic Index and then pass these recommendations on to your family. By starting these habits with your children while they are young you will be instilling in them a lifetime of good health. Wouldn't it be wonderful to know that your children may not ever have to struggle with weight issues or the threat of diabetes? And as they age and continue in this lifestyle they may avoid so many other diseases and serious health issues.

Now you are aware of what the Glycemic Index is and the terrible effects that an overload of glucose can do to your body. You have also learned what insulin is and what function it performs and how we can actually wear it out.

Additionally, you read how momentous the threat of diabetes is and how serious and complicated the disease can be. Along with that, you learned that heart disease is prevalent and even more so among women.

The good news is how easily all of these serious situations can be improved or even eliminated. And maybe the sweetest benefit of all is that along with a healthy body on the inside, comes a beautiful body on the outside!

After learning all of this, it is only natural that you will want to do everything that you can to improve your health and assist your body to function more naturally. It only takes a little bit of exertion at first and after that controlling your Glycemic Index is truly - effortless!