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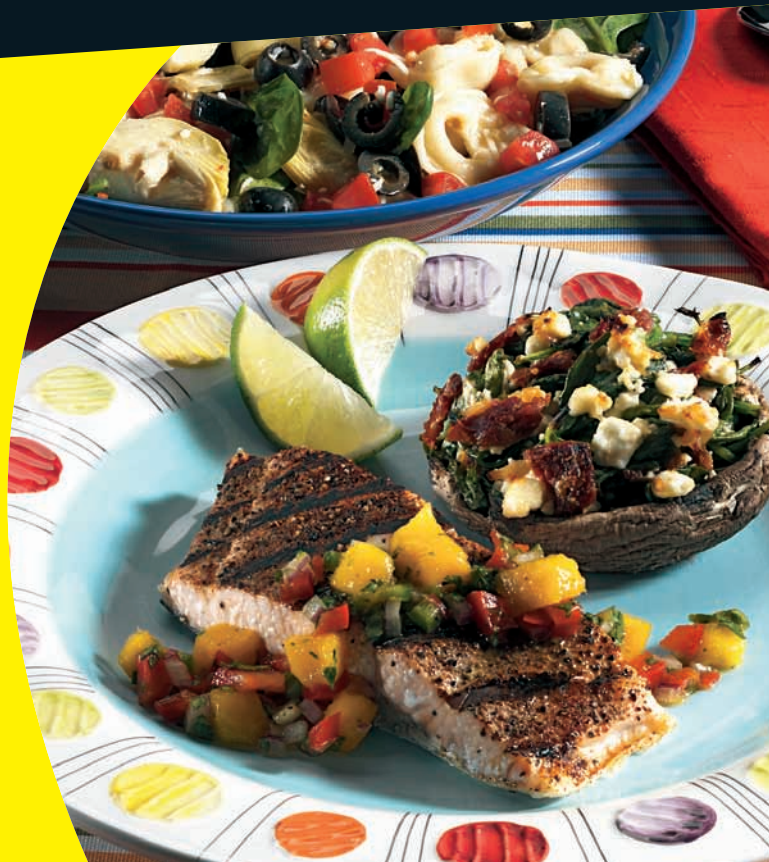
- Find the right balance of foods and nutrients at every meal
- Make a variety of delicious low-glycemic recipes
- Manage heart disease, type 2 diabetes, and other health conditions

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*Registered dietitian and founder of  
Real Living Nutrition Services*

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*Registered dietitian*



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**DUMMIES<sup>®</sup>**

**by Meri Raffetto, RD, and  
Rosanne Rust, MS, RD, LDN**



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## *Dedication*

We both come from large Italian families, so it only makes sense to dedicate this book to our parents, Joe and Iolanda and Frank and Toni, who instilled in us from an early age a love of food and cooking and the importance of enjoying every moment of life — especially those spent with family and friends.

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# Introduction

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**T**he glycemic index is a scientific method for calculating the way carbohydrates in food act in the body. The glycemic index is a great tool you can use to help manage many health issues, including diabetes, heart disease, and polycystic ovary syndrome. You can also use it to help you achieve or maintain general good health and wellness. It isn't a "diet" in a gimmicky way. Instead, it's a new way to look at your carbohydrate-containing foods to help you make the best choices for your particular situation.

No matter what inspired you to pick up this book, we know that incorporating any kind of dietary change into your life can bring with it a whole new set of challenges. Our goal in this book is to show you that implementing a low-glycemic diet can be simple and delicious. You don't have to feel deprived because this concept works well with moderation. So stop worrying that you'll never be able to eat another potato or pasta dish again. This book is here to help make your transition to a low-glycemic lifestyle a little easier by giving you ideas for how to cook low-glycemic meals for yourself, your family, and even guests.

## *About This Book*

If you're implementing a low-glycemic diet into your lifestyle (or just thinking about doing so), *Glycemic Index Cookbook For Dummies* is the perfect book for you. In the following pages, you find delicious recipes that you can begin to make and that we hope will become some of your favorites. This book also covers the basics of the glycemic index and glycemic load as well as practical, necessary information about grocery shopping, meal planning, getting your kitchen prepared, and much more.

You can use this book as a resource and, like any cookbook, you don't have to read it from cover to cover. Instead, you can find that perfect recipe you've been looking for or go straight to the chapter on stocking your pantry. Everything you need to know about cooking the low-glycemic way is here.

## *Conventions Used in This Book*

In this book, we use data from individual foods that have been tested for their glycemic index and then calculate an estimated glycemic load for each

recipe based on the sum of the ingredients used in that recipe. Take note that the recipes themselves haven't been tested in clinical human studies. Without human studies, no recipes can state with complete accuracy what their glycemic index or load will be. But rest easy that the estimates we provide are close enough to help you live a low-glycemic lifestyle.

When we use the terms *low*, *medium*, and *high glycemic* in conjunction with a particular food or recipe in this book, we're referring to its glycemic load, not its glycemic index measurement (see Chapter 4 for the difference between the two).

Like with all cookbooks, we recommend that you read through each recipe in its entirety before you start making it. That way, you can add the necessary refrigerating time, standing time, or freezing time to your overall cooking schedule. Reading through the recipe's directions beforehand also clues you in to any special tools, like immersion blenders, grill pans, or presoaked skewers, you may need to complete that particular recipe.

Here are a few other guidelines to keep in mind about the recipes in this book:

- ✔ All butter is unsalted. Margarine is not a suitable substitute for butter unless we state you can use either one.
- ✔ All eggs are large.
- ✔ All milk is lowfat unless otherwise specified.
- ✔ All onions are yellow unless otherwise specified.
- ✔ All pepper is freshly ground black pepper unless otherwise specified.
- ✔ All salt is kosher.
- ✔ All dry ingredient measurements are level.

To make sure your measurements are also level, use a dry ingredient measuring cup, fill it to the top, and scrape it even with a straight object, such as the flat side of a knife.

- ✔ All temperatures are Fahrenheit (see Appendix B to convert Fahrenheit temperatures to Celsius).
- ✔ All lemon and lime juice is freshly squeezed.
- ✔ All sugar is white granulated unless otherwise noted.
- ✔ All flour is all-purpose unless otherwise noted.
- ✔ When the recipe says to beat until frothy or foamy, take a fork and beat the liquid rapidly until small bubbles start to form and it thickens slightly.





- ✔ When a recipe says to steam a vegetable, the amount of water you need to use in your pot or steamer depends on your steaming method, so we don't include the water in the ingredients list. As a general rule of thumb, if you're using a basket in a pot, the water level should be just under the basket.

And finally, we include the following basic conventions throughout the rest of the book:

- ✔ We use **boldface** to highlight keywords and the specific action steps in numbered lists.
- ✔ We use *italics* to define or emphasize a word or phrase.
- 🍅 We use this little tomato icon to highlight the vegetarian recipes in this book.
- ✔ Web sites appear in `monofont`; we haven't added any extra spaces or punctuation in them, so type exactly what you see in the text.

## What You're Not to Read

Like all *For Dummies* books, this one has gray-shaded boxes called *sidebars* that contain interesting but nonessential information. If you aren't interested in the nitty-gritty, you can skip these sidebars. We promise not to include that information on the test (just kidding — there's no test, of course!). You can also safely skip any information marked with the Technical Stuff icon (see the section "Icons Used in This Book" for more details).

## Foolish Assumptions

We assume that you're looking for meal-planning tips and recipes that will help you succeed with your weight-loss goals and healthier living by using the glycemic index diet. We also assume that you've done some cooking. In other words, you're familiar with the right knife to use to slice a tomato without cutting your finger, and you can tell one pot from another.



If you need to brush up on your cooking skills, check out *Cooking Basics For Dummies*, 3rd Edition, by Bryan Miller and Marie Rama (Wiley) before you get rolling.

## *How This Book Is Organized*

This book is divided into six parts to help you incorporate the benefits of a low-glycemic diet into your life with recipes, helpful pointers, and more.

### *Part I: The Science behind the Glycemic Index Diet*

The glycemic index shows how different foods that contain carbohydrates — fruits, vegetables, grains, legumes, and dairy products — affect blood sugar levels. Keeping blood sugar levels stable is important for managing weight loss, diabetes, heart disease, and other health issues. It's also good practice for general wellness.

This part discusses how the glycemic index plays a role in general wellness, disease prevention, and weight loss. Here, we offer you the clinical side of a low-glycemic diet as well as practical tools on how you can use a low-glycemic diet to help you achieve your personal health goals.

### *Part II: Creating a Healthy Lifestyle with Low-Glycemic Cooking*

Figuring out how the glycemic index works is the first step, but how do you put it to work in your everyday life? In this part, we show you how to make moderate changes so you can easily make a low-glycemic diet fit your lifestyle. This part is full of meal-planning strategies, sample meal plans, low-glycemic cooking skills, tips for stocking your kitchen, and our very own grocery shopping tour. After reading the chapters here, you'll have no problem creating the recipes we include in this book.

### *Part III: Serving Up Starters, Snacks, and Sides*

You definitely don't have to give up taste to use low-glycemic foods in your cooking. The chapters in this part show you how to make some tasty breakfast dishes, wholesome baked goods, appealing appetizers, and hearty vegetable and grain sides that prove you can have plenty of flavor even when you're following a low-glycemic diet. And don't forget the soups, stews,

---

chilies, and salads! These recipes are perfect to share with your family at home or guests at a party.

## ***Part IV: Making Memorable Main Dishes and Desserts***

Making delicious, low-glycemic main entrees is pretty easy to do. After all, the main protein sources like poultry, beef, pork, and seafood are naturally low glycemic because they don't contain carbohydrates. So as long as you stick to lowfat, lean protein sources, you're good to go! In this part, you find new and tasty ways to prepare entrees with these protein sources that you can eat every day as well as serve to guests. We also include a vegetarian chapter to show you how to use low-glycemic meatless protein sources like beans and nuts to make delicious, hearty entrees.

What about dessert? Can you have dessert in a low-glycemic lifestyle? We say yes! At the end of this part, you find a whole chapter dedicated to showing you how to make some sweet treats that are low to medium glycemic and also lower in fat and calories. See? You can satisfy your sweet tooth and still meet your overall health and wellness goals!

## ***Part V: The Part of Tens***

In this part, we provide ten healthy lifestyle steps to go along with your low-glycemic diet so you can create a complete health plan. Focusing on the whole picture will help you stay your healthiest. Here, you also find ten tips for maintaining your low-glycemic lifestyle during special occasions like parties, vacations, and holidays so you can continue to make progress toward your health goals even during those challenging times.

## ***Part VI: Appendixes***

The appendixes contain some great hands-on information to help you start implementing a low-glycemic diet in your life right away. Appendix A shows you some popular low-glycemic foods you can use whenever you like and explains which medium- to high-glycemic foods you need to use in moderation.

If you'd rather use the metric system, Appendix B provides simple conversion tables to make switching from ounces to grams (and other measurements) simple.

## Icons Used in This Book

The icons in this book are like bookmarks, pointing out information that we think is especially important. Here are the icons we use and the kind of info they point out:



Even if you forget everything else in this book, remember the paragraphs marked with this icon. They'll help you make good low-glycemic choices and stay on track with your health goals.



The information marked with this icon is interesting to know, but it goes beyond what's essential for your basic understanding of the glycemic index. If you're the type of person who likes to know more about any particular topic, you'll enjoy these tidbits. If not, feel free to skip 'em.



This helpful icon marks important information that can save you time and energy, so make sure you don't overlook it.



Watch out for this icon; it warns you about potential problems and common pitfalls of implementing a low-glycemic diet into your lifestyle.

## Where to Go from Here

Where you go from here depends on your immediate needs. Are you a newbie to the glycemic index and want to learn a little before you head to the kitchen? Then check out Part I for some basic information. If you're interested in meal planning, start with Chapters 4 and 5. If you're not sure where you want to begin, peruse the table of contents and pick out the topics that mean the most to you and start there. (We just want to remind you not to skip our personal favorite, Chapter 19, which covers desserts, of course! You definitely don't want to miss out on the yummy treats we offer you there!)

## Part I

# The Science behind the Glycemic Index Diet

The 5<sup>th</sup> Wave

By Rich Tennant



"This Glycemic Index Diet should work as long as my Looks So Good Gotta Have It Index doesn't kick in."

## *In this part . . .*

**T**he glycemic index was originally created as a way to scientifically determine how different foods that contain carbohydrates — fruits, vegetables, grains, legumes, and dairy products — affect blood sugar levels. Since that initial research took place more than 30 years ago, scientists have come to understand that the glycemic index can be an effective tool for improving and maintaining health and wellness.

In this part, we cover the science behind using low-glycemic foods to potentially prevent and manage conditions such as heart disease, diabetes, polycystic ovary syndrome, and metabolic syndrome. We also provide practical tools that can help you use a low-glycemic diet to work toward your individual weight-loss goals.

## Chapter 1

# What Is the Glycemic Index?

---

### *In This Chapter*

- ▶ Defining the glycemic index by focusing on carbohydrates
  - ▶ Getting a feel for how glycemic index measurements work
- 

**W**hen the glycemic index was first introduced in the 1980s, its main focus was on helping people with diabetes gain better control of their blood sugar. The original glycemic index research included only 62 foods, but if you fast forward to today, you see that hundreds of foods are now included. Although the glycemic index is a fairly new science, you can find all sorts of mainstream diet programs that incorporate it into their daily guidelines. To keep up with the glycemic index trend, many food companies are focusing on developing lower-glycemic food options, and glycemic testing institutions are creating special food labeling to make it easier for you to find the low-glycemic foods you're looking for.

So if you're thinking about starting a gimmick-free lifestyle change that's based on science (yes, we mean the glycemic index diet), get ready to dive right in! In this chapter, we give you a quick rundown of what the glycemic index is and how the glycemic index is measured.

## *Introducing the Main Event behind the Glycemic Index: The Effect of Carbs*

The *glycemic index* isn't a diet in the sense that you have to follow specific meal plans or eliminate certain foods from your daily meals and snacks. Instead, it's a scientific way of looking at how different carbohydrates in foods affect *blood glucose*, or blood sugar, levels. Although all carbohydrates raise blood sugar to some degree, the glycemic index takes this notion a step further by figuring out how much a specific food raises blood sugar. This information is especially important to know if you want to lose weight or if

you have diabetes, heart disease, or certain other health issues. (See Chapter 2 for details on how the glycemic index diet can help you manage different health conditions.)



The glycemic index applies only to foods that contain carbohydrates, which include vegetables, fruits, grains, lentils, legumes, sugars, and the dairy portions of your meals. It shows you how these foods impact your blood sugar, which then affects everything from your energy levels to food cravings.

The following sections give you the scoop on how different types of carbohydrates impact your blood sugar and insulin levels.

## *Understanding the differences between carbohydrates*

Most foods are made up of the following three calorie-containing macronutrients:

- ✓ **Carbohydrates:** As the body's primary fuel source, carbohydrates provide energy for the brain, muscles, and organs.
- ✓ **Protein:** The body rarely uses protein for energy because protein has other, more valuable uses — like being the building blocks of body tissues.
- ✓ **Fat:** The body uses fat for energy, but only when it has used up all the available carbohydrates.

Although health experts recommend that people get 40 to 60 percent of their total calorie intake from carbohydrates, active people need more carbohydrates to fuel their muscles, and children and adolescents need more carbohydrates to fuel growth. On the other hand, people who are sedentary or who have health issues related to *insulin resistance* (which occurs when your body produces insulin but doesn't use it properly) need smaller amounts of carbohydrates. (See Chapter 2 for details on how a low-glycemic diet can benefit folks with certain health issues.)

Because carbohydrates are the body's primary source of energy, it makes sense that just about every food group contains them. For instance, fruits, vegetables, grains, beans, lentils, and dairy products all contain different amounts of carbohydrates.

In general, carbohydrates come in these two varieties:

- ✓ **Simple carbohydrates:** Contain one or two sugar units
- ✓ **Complex carbohydrates:** Contain multiple sugar units



In the past, scientists thought simple carbohydrates raised blood sugar levels faster than complex carbohydrates because their sugar units are shorter and, thus, would break down more quickly. However, the glycemic index has shown that all carbohydrates, both simple and complex, vary greatly in regard to their blood sugar responses. For example, past reasoning dictated that a baked russet potato, which is a complex carbohydrate, would make a person's blood sugar rise more slowly than a teaspoon of sugar, which is a simple carbohydrate. But when these two foods were tested in clinical human studies, the opposite was true. The potato increased blood sugar more quickly than the sugar.



You can't tell how different foods will impact blood sugar or whether those foods are high or low glycemic just by looking at their food categories. Instead, researchers have to test specific foods to determine how the human body will respond to them. The same is true for recipes. The recipes we include in Parts III and IV are made up of low-glycemic ingredients that have been tested, but the recipes themselves haven't undergone any human clinical tests. For this reason, we can make an educated guess that the recipes will stay low glycemic when you make them, but we can't know for sure without the clinical testing. (Check out Appendix A to find the tested glycemic levels of many common foods.)

## *Knowing how blood sugar can work for you and against you*

All carbohydrates, whether they're low glycemic or high glycemic, break down into blood sugar, which plays a crucial role in the body's ability to function properly. The body uses blood sugar as fuel for energy — much like a car uses gasoline — which is why athletes depend on carbohydrates to fuel their bodies so they can participate at peak performance.

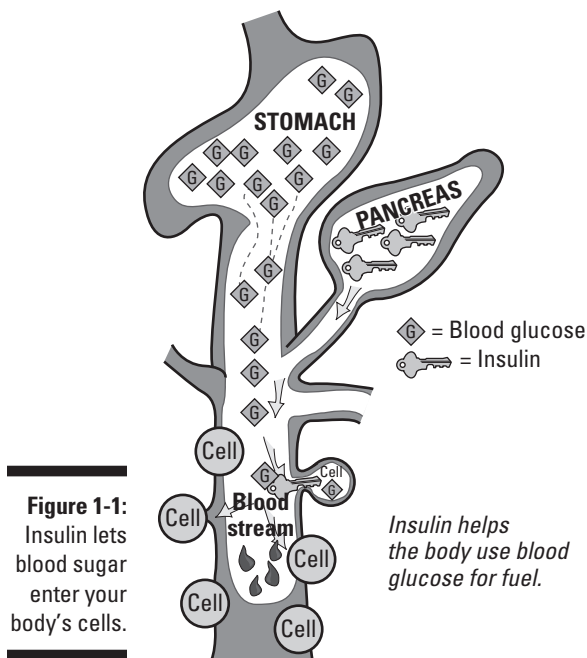
The problem with blood sugar (and carbohydrates) arises when your blood sugar levels spike high throughout the day on a regular basis. These spikes occur when you eat mostly high-glycemic foods or large portion sizes of carbohydrate-containing foods. For many people, these spikes don't have a noticeable impact on their lives, but for others, these spikes can lead to food cravings, mood swings, energy crashes, and more serious issues like high clinical blood sugar (for diabetics or those with prediabetes), high cholesterol, or high *triglycerides* (fats found in the bloodstream that can increase your risk of heart disease when their levels are high). In addition, regular blood sugar spikes can impact how your body stores fat. How blood sugar spikes affect you personally depends on your body and genetics.



Choosing low-glycemic foods most of the time is one way to help keep blood sugar under control. We explain how to use a low-glycemic diet to battle cravings, suppress your appetite, and keep calories under control in Chapter 3.

## Considering the role insulin plays in storing blood sugar

As we note in the previous section, when you eat carbohydrates, your body breaks them down into blood sugar. As soon as your blood sugar levels start to rise, your pancreas releases a hormone called *insulin*. Insulin acts like a key that unlocks the door to your cells so the blood sugar can enter them and be used as energy (see Figure 1-1).



Even though insulin transports blood sugar directly to your cells, your body doesn't turn all that blood sugar into energy right away. When blood sugar levels rise above normal (in part because you're eating high-glycemic foods), insulin signals your liver, muscles, and other cells to store the extra sugar. Your body stores some of this excess blood in your muscles and liver as *glycogen* (long-term stored energy) and converts some to body fat. Eating low-glycemic foods helps you regulate insulin and blood sugar levels that could become unstable because of a health condition or because you eat excess amounts of carbohydrates or calories.



Keep in mind that your body is extremely efficient. You won't become overweight just because you have one high-glycemic meal or because you eat one too many servings of stuffing at Thanksgiving. Your body stores fat over time when you continually take in more calories than you need. (See Chapter 3 for details on how to use a low-glycemic diet to control calories.)

## Measuring a Food's Glycemic Index

The *glycemic level* of a food measures how fast that food is likely to raise your blood sugar. A food that is rapidly digested and absorbed with a high increase in blood sugar is considered *high glycemic*, and a food that is slowly digested and absorbed with a gradual rise in blood sugar is considered *low glycemic*. Foods that fall in the middle are considered *medium glycemic*. The following sections describe the index measurement process; define low-, medium-, and high-glycemic foods; explain the importance of nutrition when looking at categories of foods; and spell out some of the limitations of the glycemic index.



Only carbohydrate-containing foods can be considered low, medium, or high glycemic. Other food groups, like meats and fats (think oil and butter), don't contain carbohydrates, so you have to use your nutrition know-how to determine the best choices for you.



Be sure that you don't confuse the glycemic index with the *glycemic load*, which is a measurement based on the glycemic index and which you can use to start planning meals that fit the glycemic index diet. Flip to Part II for the scoop on glycemic load and meal planning.

## Graphing responses to different foods

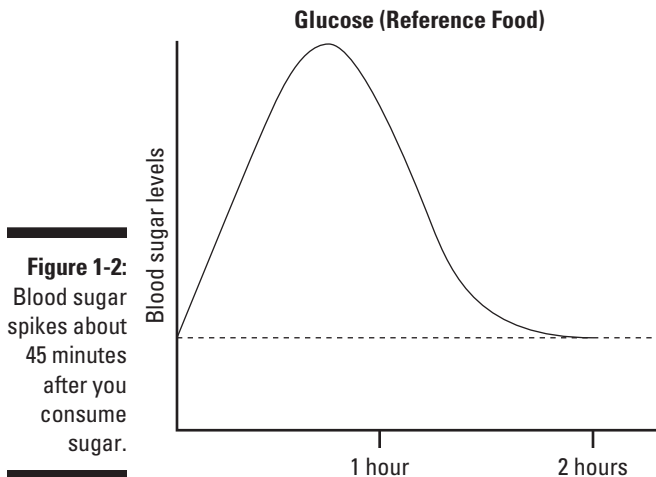
Measuring a food's glycemic index is actually a very expensive and involved process that requires human test subjects. Researchers feed 50 grams of *available carbohydrates* (that's total carbohydrates minus fiber) from a particular food item to ten or more volunteers to test how the food raises their blood sugar levels at different intervals over a two-hour period after it's consumed. The researchers plot the changes in blood sugar levels on a graph and then follow the same procedure with 50 grams of available carbohydrates from pure sugar or white bread. To determine the glycemic index of the tested food item, they compare the average blood sugar response of all ten volunteers to the tested food item and the average response to the sugar or white bread.



Researchers use pure sugar for comparison purposes because it's the simplest form of energy used by the human body. However, because most people don't typically eat sugar by itself, researchers sometimes use white bread instead to test comparisons of staple foods.

Here are a few examples that show you how this testing process may look on a graph:

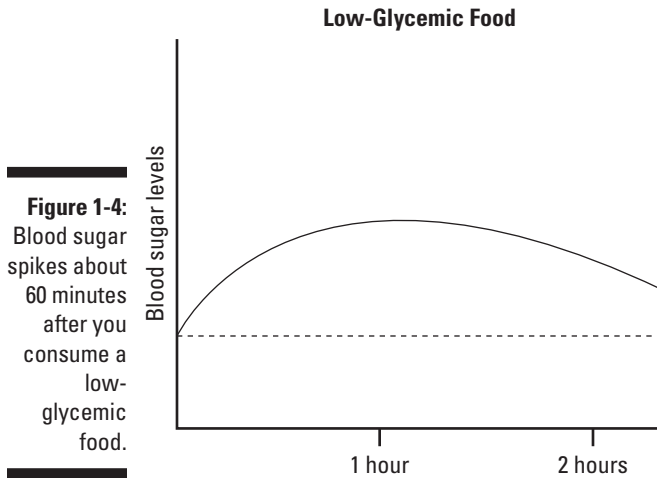
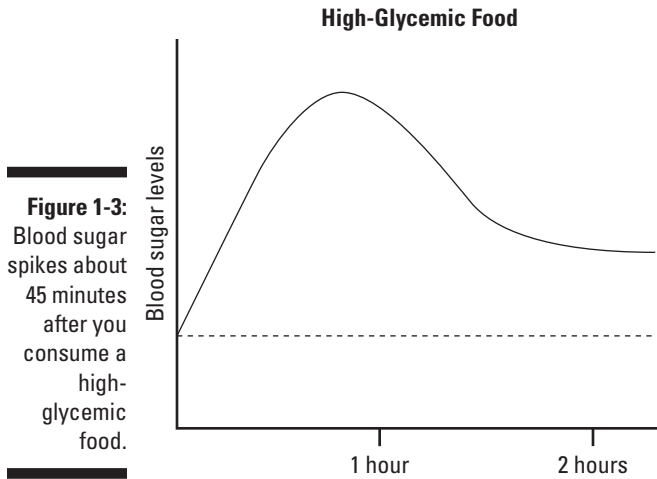
- ✔ Figure 1-2 shows the sharp rise in blood sugar response when test subjects consume pure sugar. You can see the quick rise and ensuing drop over a short amount of time. Notice that the maximum blood sugar spike occurs around 45 minutes after consumption. After this peak, the blood sugar levels drop quickly.



**Figure 1-2:** Blood sugar spikes about 45 minutes after you consume sugar.

- ✔ Figure 1-3 shows what happens when test subjects consume a high-glycemic food. Notice how the rise is similar to what you see in Figure 1-2.
- ✔ Figure 1-4 shows how the curve changes when test subjects consume a low-glycemic food. Notice that the maximum spike is much lower and occurs much later than the spike that occurs after subjects eat pure sugar or high-glycemic foods; it happens about an hour after consumption with a slow drop back to the baseline.

Because this type of blood sugar response requires lower levels of insulin, it results in better control of food cravings, hunger, and mood. For diabetics or anyone with insulin resistance, this means that your body won't require as much insulin and what insulin is needed will be required at a slower rate.



## *Keeping nutrition in mind when defining low- to high-glycemic foods*

After a food undergoes glycemic index testing, determining whether it's low, medium, or high glycemic is pretty straightforward. High-glycemic foods have the fastest blood sugar responses, and low-glycemic foods have the slowest.



Here are the glycemic index measurements on a scale of 0 to 100:

- ✓ **Low glycemic index:** 55 or lower
- ✓ **Medium glycemic index:** 56 to 69
- ✓ **High glycemic index:** 70 or higher

High-glycemic foods aren't necessarily unhealthy foods. Similarly, low-glycemic foods aren't always healthy. The glycemic index measurement simply lets you know how quickly your blood sugar will rise from eating a particular food.



Basing your food choices solely on the glycemic index can get you into trouble because it means you're looking at only one aspect of the food and ignoring other important aspects, such as calories, fiber, vitamins, and minerals. (Chapter 3 explains why considering calories and fiber is important, especially when you're trying to lose weight.)

Many people think that whole grains, fruits, and vegetables naturally fall into the low-glycemic category. Although this estimation is true most of the time, it isn't always the case. On the same note, many non-nutritious foods are considered low glycemic. Table 1-1 shows you the glycemic index measurements of some popular healthy and unhealthy foods. As you can see, some foods fall right where you thought they'd be. For example, brown rice is a low-glycemic food. In contrast, other foods may surprise you. Notice that peanut M&M's and Snickers bars have low-glycemic indexes. Does that mean they're healthy and nutritious? No. Although they aren't a bad snack to choose once in a while, they're still a low-nutrient, high-fat, and high-calorie food.

The point at which specific types of products vary is where the glycemic index gets tricky. For example, notice that jasmine rice has a significantly higher glycemic index than basmati rice even though both types of rice are white. To help you figure out which common foods, including different rice and pasta varieties, fall into the different glycemic categories, turn to Appendix A.

**Table 1-1 The Glycemic Lowdown on Some Popular Foods**

<i>Food</i>	<i>Glycemic Index Number</i>	<i>Measurement</i>
Peanut M&M's	33	Low
Snickers bar	43	Low
Brown rice	48	Low
Whole-wheat bread	52	Low
Basmati white rice	57	Medium

<i>Food</i>	<i>Glycemic Index Number</i>	<i>Measurement</i>
Spaghetti	58	Medium
Plain bagel	69	Medium
Watermelon	72	High
Jasmine rice	89	High
Baked potato without skin	98	High



Beware of labeling all low-glycemic foods as “healthy.” That’s what happened during the lowfat craze of the 80s and 90s. People started eating lowfat everything, even if it meant higher sugar and calorie contents. To help you make the best food choices, use the glycemic index in combination with everything you already know about healthy eating, and incorporate high-nutrient, low-calorie foods into your everyday diet.



## *Watching out for a few limitations*

The glycemic index is a great tool, but it does have a few limitations you need to know about:

- ✓ **The lists are limited.** Glycemic index testing has only been around for about 20 years, and it isn’t required by federal guidelines in the United States. The testing process is quite expensive and time-consuming because each variation of every food must be tested before researchers can finalize their results. Also, only a small number of researchers actually conduct the glycemic index testing, and they can’t possibly keep up with the thousands of new food products that manufacturers develop each year.

The recipes in Parts III and IV use low-glycemic ingredients with estimated glycemic loads (described in Chapter 4), but the recipes themselves haven’t been officially tested.

- ✓ **The findings vary.** Researchers have to observe humans to determine glycemic index measurements, and no two humans are alike. That means the rate at which people digest carbohydrates, their insulin responses, and even the time of day when they’re tested can cause variation in testing results. To account for these variations, researchers have to test each food on many people and then take the average.

Furthermore, the food world is full of variety. For example, you may find one long-grain rice variety with a glycemic index of 62 and another with an index of 68. The differences can result from where the grains were grown, how long they were cooked, how they were cooked, and so on.