Chapter 1

Conquering Cholesterol Is Easier (and More Pleasant) Than You Think

In This Chapter

- Sorting out kinds of cholesterol
- Increasing the good cholesterol and lowering the bad
- Reducing heart disease risk factors
- Developing a way of eating to control cholesterol
- Linking cholesterol to carbohydrate intake
- Having firsts but not seconds
- Introducing the recipes

The heart goes about its business, beating 100,000 times a day, and you probably hardly give it a thought, until perhaps you have your cholesterol checked and find out it's too high. Then suddenly caring for this precious piece of yourself takes center stage.

In fact, you need to take care of your heart even if your cholesterol levels are normal. And that's the reason I wrote this cookbook — to give you a tool for controlling cholesterol and keeping your heart healthy with good nutrition.

This chapter starts with a brief description of cholesterol. I then introduce you to a healthy way of eating and discuss types of foods that you should include in a heart-healthy diet. I describe other risk factors for heart disease and explain how the same foods that lower cholesterol help these conditions too. Next, I give a warning about portion control. Finally, I discuss the recipes and their inspiration.

Doing the numbers

The American Heart Association offers these general guidelines to assess cholesterol levels. When you have a cholesterol test, compare the results with these figures. A level of the "good" HDL cholesterol lower than 40 mg/dL is low and increases the risk for heart disease. Cholesterol levels are measured in milligrams (mg) of cholesterol per deciliter (dL) of blood.

Total Cholesterol Level	*Category*
Less than 200 mg/dL	Desirable
200-239 mg/dL	Borderline high
240 mg/dL and above	High

LDL Cholesterol Level	*LDL Cholesterol Category*
Less than 100 mg/dL	Optimal
100-129 mg/dL	Near optimal/above optimal
130-159 mg/dL	Borderline high
160-189 mg/dL	High
190 mg/dL and above	Very high

Cholesterol Doesn't Grow on Trees

The liver produces cholesterol, whether it's your liver or the liver of a chicken or cow. Only animal products, such as eggs, meat, and dairy foods, contain cholesterol. Plants don't have livers and they don't contain any cholesterol, which is one reason why a cholesterol-controlling diet features plants.

The body manufactures cholesterol by hooking 15 two-carbon acetates (vinegars) end to end, and after some other steps, a 27-carbon cholesterol molecule is formed. But here's what's really interesting — those two-carbon acetates can come from several sources, including fatty acids, protein, sugars, and starches. Alcohol can also provide acetates for the production of cholesterol!

Normally, your body produces less cholesterol when more is consumed. However, in some people, their blood level of cholesterol increases when they consume more cholesterol. Individual responses to dietary cholesterol vary widely.

Cholesterol can be dangerous because if it accumulates on artery walls it can block the flow of blood to the organs, including the heart. This blockage results in a disease called *atherosclerosis,* a major cause of heart attacks and stroke.

What we call cholesterol circulating in the blood is actually a lipoprotein. A *lipoprotein* is a package of cholesterol, protein, and fat that the liver assembles and releases into the bloodstream. For more details about cholesterol and the

heart, take a look at *Controlling Cholesterol For Dummies,* by Carol Ann Rinzler and Martin W. Graf, MD, published by Wiley.

There are many different types of lipoproteins, but the two you hear most about are low-density lipoproteins (LDL) and high-density lipoproteins (HDL).

LDL hauls out cholesterol from the liver and it's this cholesterol that deposits in arterial walls and initiates the formation of plaques which can narrow the artery. Most often a blood clot at the site where the artery has narrowed blocks the flow of blood and triggers a heart attack. (That's why it's called the bad cholesterol.) HDL carries cholesterol back to the liver for conversion into bile acids and excretion via the intestinal track. (In this way, HDL earns its nickname, the good cholesterol.)

Therefore, the purpose of a cholesterol-controlling diet is not just to lower total cholesterol, but also to lower LDL and raise HDL.

If you don't know your cholesterol levels and plan to have them checked, you may need to have more than one test because cholesterol levels can fluctuate. If your total cholesterol is more than 200, wait a month and take the test again. If the results of the two tests are within 30 mg/dL, average them. If the difference is greater than 30 mg/dL, take a third test and average the three.

Eating to Produce the Right Mix of Cholesterols

The goal of controlling cholesterol with diet is not just to keep the total cholesterol within normal range. You also want to choose foods that have been shown to lower LDL cholesterol and elevate HDL, and avoid foods that do the opposite.

Lowering LDL levels

One of the most forceful messages from the medical community about lowering cholesterol that has come through loud and clear over the years is to reduce the intake of saturated fat and dietary cholesterol because they raise cholesterol. However, as research has progressed, this recommendation has altered slightly. Dietary cholesterol is now considered less of a factor in elevated cholesterol than saturated fat, and a new factor — trans fatty acids — has been added.

Restricting saturated fat intake

All the well-known diets for reducing heart disease— including those of Dean Ornish and the American Heart Association — give high priority to restricting

intake of saturated fat. Research leaves no doubt that the percent of calories from saturated fat dramatically increases the risk of heart disease.

In its year 2000 dietary guidelines, the American Heart Association (AHA) recommends limiting saturated fat content to 10 percent of calories for the general population with normal cholesterol levels. It also recommends reducing saturated fat intake further, to 7 percent of calories, for individuals with elevated cholesterol levels or cardiovascular disease. (However, whether it's best to replace saturated fat with carbohydrates or other kinds of fat is now being questioned. I cover this topic in the section "The Eating Plan for Controlling Cholesterol," later in the chapter.)

Major sources of saturated fat in the diet are full-fat dairy products, fatty meats, and tropical oils.

Watching dietary cholesterol

Foods high in cholesterol are not the culprits they were once thought to be. Research is showing that cholesterol-rich foods that are also relatively low in saturated fat, such as egg yolks and shellfish, raise LDL cholesterol levels only minimally and far less than saturated fat.

Researchers at Harvard School of Public Health and Brigham and Women's Hospital in Boston examined the association between egg consumption and incidence of cardiovascular disease in a study published in the Journal of the American Medical Association in 1999. Data came from a population of over 100,000 men and women health professionals. Results of the study showed that eating up to one egg a day had no significant association with the risk of coronary heart disease or stroke. This was true even for individuals with elevated cholesterol.

The American Heart Association now gives the okay to eggs in the diet, even though an egg contains about 213 mg of cholesterol. However, the guidelines still limit cholesterol to a maximum of 300 mg/dL a day for the general population and below 200 mg/dL for persons with an LDL level above specific target levels, and for those who have diabetes and/or cardiovascular disease. Of course, if you consume cholesterol-containing foods such as dairy products and meat, along with an egg for breakfast, you're very likely to surpass the recommended ceiling on cholesterol.

It's always a good idea to limit how much high-cholesterol food you eat. One benefit of limiting items such as red meat is that these also contain a lot of saturated fat. Be sure to work with your doctor and regularly have your cholesterol checked to tailor your diet to the amount of cholesterol you find your system can manage.

When deciding whether to consume a food that contains cholesterol, consider what else you're eating that day.

Avoiding trans fatty acids

Trans fatty acids, predominantly found in partially hydrogenated vegetable oils, elevate LDL cholesterol almost as much as saturated fat, molecule for molecule. They also raise triglycerides, blood fats associated with increased risk for heart disease. (Chapter 3 gives you an even longer list of the harmful effects of trans fats.)

Trans fatty acids are found in partially hydrogenated vegetable oils, which are an ingredient in a great number of food products. Check labels the next time you go to the grocery store, and you'll find these oils in breakfast cereals, salad dressings, all sorts of baked goods such as muffins, pie crusts, breads and cookies, instant hot chocolate, and frozen dinners.

The most effective way to avoid trans fatty acids is to feature in your meals natural ingredients such as fresh fruits and vegetables rather than processed foods. Cooking your own meals using unrefined oils also helps keep trans fats off your plate. The recipes in this book let you bake your own muffins and even crackers, as well as prepare healthful dressings and sauces and all sorts of main courses free of trans fats.

Any time you eat deep-fried foods such as french fries or fried chicken, at home or out, you're taking in some trans fats which form in the hot oil.

Choosing ingredients that lower LDL

As you plan your meals and experiment with recipes, include foods that have been shown to lower LDL cholesterol. Many common ingredients contain components that can significantly lower your risk for heart disease. The following information can help you select foods that are good for you:

- Polyunsaturated fats lower LDL cholesterol levels. Sunflower and corn oils contain these fats, but these oils are highly processed, so try to avoid them. A better choice is safflower oil, which you can buy unrefined. (See Chapter 3 for more about why processed oils are less healthful than unrefined oils.)
- Omega-3 fatty acids, a type of polyunsaturated fat, in fish lower LDL levels and benefit the heart in other ways too, such as reducing the tendency of the blood to clot.
- Monounsaturated oils, when substituted for saturated fats, can lower LDL, reduce the likelihood of LDL oxidation, and stabilize or even raise HDL cholesterol levels. In addition, monounsaturated fats don't raise triglyceride levels. To get monounsaturated fat in your diet, stock up on avocados, almonds, and extra-virgin olive oil.
- Soluble fiber, to a lesser extent, also lowers cholesterol by helping eliminate it from the body. Chapter 2 gives you a list of foods that contain soluble fiber.

Soy protein also has beneficial effects when substituted for animal protein and may be particularly useful for individuals at high risk for heart disease.

Aiming for more antioxidants

If LDL cholesterol oxidizes, it's more likely to deposit in your arteries and contribute to the formation of plaque. Fortunately, nature provides a wealth of nutrients that can reverse this process, and the recipes in this book are full of these nutrients. Foods high in antioxidants are also the most colorful, so the dishes look great!

A free radical contains an electron that's missing a mate and therefore goes in search of one, darting here and there. When a free radical comes in contact with LDL cholesterol, it steals an electron from it, thereby "oxidizing" the cholesterol. Antioxidants come into play when they intercept free radicals, reacting with them and trapping them. In this way, antioxidants prevent cholesterol from oxidizing.

The most well-known antioxidants are beta carotene, vitamin E, and vitamin C. Several minerals, including selenium, also play a role in preventing oxidation. Numerous phytochemicals, pigments in plants, function as antioxidants, too. (These compounds are in the plant to protect it from sun damage, but when you eat the plant, you reap the benefits!)

Research is showing that you can't pop an antioxidant pill and expect results. An analysis that appeared in the journal *The Lancet* in 2003 combined data from seven vitamin E trials and beta-carotene studies. Researchers tested the effects of taking supplements of these antioxidants on coronary heart disease, and found that supplementation of antioxidants did not reduce fatalities due to heart disease.

It appears that eating real food is the way to reap the benefits of antioxidants that can lower your risk of heart disease. This was the conclusion of an analysis of data from the Health Professionals Follow-up Study and the Nurses' Health Study. Consuming eight or more servings per day of fruits and vegetables rich in the antioxidant vitamin C reduced the risk of coronary heart disease by 20 percent compared with eating less than three servings of these foods a day.

Consuming several antioxidants together, as you find them in fruits and vegetables, provides you with a bonus of antioxidant power because antioxidants work in concert, bolstering each other's activities.

Raising HDL levels

Although lowering LDL levels is an important goal in preventing heart disease, raising HDL levels is also an important primary preventive action. About

30 percent of people with coronary heart disease have low HDL cholesterol levels while their LDL cholesterol level is normal. In fact, according to *The Johns Hopkins White Papers* on heart attack prevention, increasing HDL may be as important as lowering LDL in preventing heart attacks.

Quitting smoking, exercising more, and losing weight raise HDL cholesterol. Research shows that certain dietary changes can also produce results:

- Replacing saturated fat with monounsaturated fat increases HDL levels. Substituting saturated fat with carbohydrates can decrease HDL levels.
- Eating foods with a lower glycemic index, an indicator of a food's ability to raise blood sugar levels, is associated with higher levels of HDL. Low glycemic index foods also reduce triglycerides.
- If you drink at all, consume a moderate amount of alcohol. All types are beneficial, but red wine is a good choice because of its antioxidants. (See Chapter 21 for more on healthy beverages.)

Please don't start drinking just because red wine can be beneficial for your health. If you do begin, first consult with your doctor about risks that may apply to you.

Figuring the ratio of total cholesterol to HDL

Another way to assess your risk of heart disease is by knowing the ratio of total cholesterol to HDL. Let's say your total cholesterol is 200 and your HDL cholesterol is 40. Dividing 200 by 40 gives you 5, making the ratio between total cholesterol and HDL cholesterol 5:1. A ratio has been proven consistently reliable in predicting risk of future heart disease.

To calculate this ratio, divide your total cholesterol by the amount of HDL. In round numbers, a ratio of 5:1 or higher is considered risky. A ratio below 3.5:1 is ideal.

To help tip the ratio in your favor, here's how to eat:

- Eat enough fat and the right kinds, meaning monounsaturated oils and foods that contain omega-3 fatty acids, such as avocados and almonds. Lowfat diets tend to lower HDL levels more than LDL levels, making the ratio between the two worse.
- Regularly consuming garlic is well established by scientific research as a means of raising HDL levels and dropping LDL levels. Take one to three cloves of garlic in any form — raw, cooked, or as an extract in supplement form. Raw onions have also been shown to raise HDL levels.

- Beans are beneficial because of their low glycemic index and their fiber content, increasing HDL levels slowly over time while reducing LDL levels more quickly. (See Chapter 16 for recipes and more information about beans.)
- Avoid trans fatty acids because they increase the ratio of LDL to HDL.
- Curb foods with a high glycemic index and avoid simple, refined sugars.
- Lose weight.

Replacing saturated fat with carbohydrates results in a decline in total cholesterol and LDL cholesterol but also a decrease in HDL cholesterol.

Paying Attention to Risk Factors

While preventing high cholesterol is an important action to take to ward off heart disease, paying attention to other risk factors also will serve you well. The development of heart disease involves many factors. The more risk factors a person has, the greater the chance of developing coronary heart disease such as atherosclerosis.

High blood pressure and being overweight can raise risk and both are addressed in this cookbook. Chapter 3 gives you some tips on lowering high blood pressure with a diet that contains plenty of fruits and vegetables and whole grains. And the way of eating that the recipes offer can help you reach a healthy weight. The dishes are made with nutritious ingredients that satisfy hunger so you won't need extra food to feel well-fed.

Being overweight or obese, 20 percent above ideal body weight, increases the risk of heart disease. One way of measuring weight is the body mass index (BMI), a figure that considers weight and height. According to data from the National Health and Nutrition Examination Survey, as BMI rises, LDL cholesterol levels and blood pressure also increase. In addition, HDL cholesterol levels decline. To find out your BMI, go to `www.consumer.gov/weight-loss/bmi.htm`.

There are two more useful indicators of the risk of heart disease, namely homocysteine and inflammation. Homocysteine and inflammation may be new to you, but as time goes by you'll probably be hearing more about them from your doctor. (You could bring up these topics first.) The medical world, taking a fresh look at the research, is now taking both of these conditions seriously.

Having a look at homocysteine

Homocysteine is an amino acid, a component of protein, associated with an increased risk of coronary heart disease. Elevated homocysteine appears to

have similar effects on blood vessels as high levels of the "bad" LDL cholesterol, compounding damage. Homocysteine promotes the growth of smooth muscle cells in the arteries, thereby making them narrower, and inhibits the growth of cells that help protect against the development of atherosclerosis. It's thought that the body responds to these changes by depositing cholesterol to mend the damage to the arteries.

Dampening inflammation

Atherosclerosis is now considered to be an inflammatory disease, like arthritis. The arterial walls become inflamed. This inflammation is not like the kind when you cut your finger and it swells and turns red. This is chronic inflammation and produces no obvious symptoms. The test for inflammation measures the amount of a molecule called *C-reactive protein* (CRP) in the blood. People with high CRP levels tend to go on to develop coronary heart disease and have a heart attack. A study published in the journal *Circulation* in 2003 concluded that CRP in the blood may directly contribute to the formation of blood clots which can cause heart attacks.

Having both elevated cholesterol and a high CRP level in the blood increases the risk of a heart attack severalfold.

To have your CRP blood level measured, ask for the high sensitivity CRP (hs-CRP) version of the test which can detect small differences in CRP that may translate into large differences in the risk. Or assess your risk at this Web site, sponsored by the National Institutes of Health: `hin.nhlbi.nih.gov/atpiii/calculator.asp?usertype=prof`.

Extra benefits in cholesterol-controlling foods

All these various risk factors, just like elevated cholesterol, can be controlled by diet and often with the very same foods! I made sure these ingredients showed up in the recipes in this book so you'd be getting the biggest dose of beneficial nutrients for the calories.

Take a look at Chapter 2 for lists of recommended foods. There's a section on what to eat to reduce homocysteine. The entire range of homocysteine-lowering vitamins is present in green leafy vegetables, citrus fruits, fish, and dairy products. Another section tells you about all the foods with flavor, such as onions, garlic, ginger, and the spice turmeric, which dampen inflammation.

Lowering Cholesterol for Very High Risk Patients

The National Cholesterol Education Program (NCEP) of the National Heart, Lung and Blood Institute provides guidelines for physicians to use in the management of cholesterol based on what other risk factors a patient may have for developing heart disease. These risk factors include high blood pressure, smoking, a family history of heart disease, diabetes, and metabolic syndrome, a constellation of risk factors. (See the section in this chapter "Watching carbs and cholesterol" for a full description of metabolic syndrome and how it relates to heart disease and cholesterol.)

In July 2004, the NCEP announced in a report published in the journal *Circulation* a lower, more cautious LDL target level of 70 mg/dL, based on clinical trials, for patients at very high risk for heart disease, down from the former target of 100 mg/dL. In addition, although acceptable levels of LDL cholesterol remained the same for high-risk and moderately high-risk individuals, the LDL threshold at which drug therapy may be given to these patients was lowered.

The report emphasized the importance of intensive use of nutrition, physical activity, and weight control, but it also opened the door to wider use of cholesterol-lowering medication. If you have high cholesterol, now you're probably more like to hear from your physician that you need medication. This may indeed be right for you, something you and your doctor can figure out, but make sure you combine drug treatment with changes in lifestyle too. Tackle the healthy eating presented in this book. Run around the block and earnestly lose weight. As your cholesterol comes down thanks to these natural means, there will come a day when you just may be able to go off the medication. Then keep up your healthy habits.

A copy of the NCEP update can be found online at `www.nhlbi.nih.gov/guidelines/cholesterol/index.htm`. In addition, a 10-year heart attack risk calculator can be found at `hin.nhlbi.nih.gov/atpiii/calculator.asp?usertype=prof`.

The Eating Plan for Controlling Cholesterol

If you want to change your way of eating to control cholesterol, you can start by using the same principles that I used when I developed the recipes for this book. Cook with whole foods, natural ingredients as nature made them and not refined or processed. Rely on and ingredients that provide healthy fats, including polyunsaturated and monounsaturated fats and essential omega-3

fatty acids, soluble fiber, and nutrients that help control cholesterol and maintain heart health. Incorporate plenty of vegetables, fruits, nuts, beans, whole grains, fish, and poultry in your menus. Remember that lean meats, reduced-fat dairy foods, and eggs are also permissible in a low-cholesterol diet, but in smaller quantities.

The recipes in this book feature carbohydrates that have only a moderate effect on blood sugar levels, such as pearled barley and brown rice. (For more on this subject, take a look at *Low-Carb Dieting For Dummies,* by Katherine B. Chauncey, PhD, published by Wiley.) Saturated fat is present only in small amounts, and cholesterol content is limited. You can adapt many of your recipes to follow these same heart-healthy cooking guidelines.

The ingredients in the recipes in this cookbook are also found in the traditional diets of Italy, Greece, and other countries bordering the Mediterranean. Heart disease rates are low in this region, and researchers have concluded that this way of eating, the now widely publicized Mediterranean Diet, is the prime reason.

A growing body of research coming out of Boston also gives support to this approach to diet. Walter C. Willett, MD, and the Harvard School of Public Health, where he is chairman of the department of nutrition, co-developed a way of eating based on the results of three very large studies. These are the Nurses' Health Study, with 121,700 participants; the Health Professionals Follow-Up Study, which includes 52,000 men; and the Nurses' Health Study II, a survey of 116,000 younger women. The studies were the joint effort of the Harvard School of Public Health and the Harvard Medical School and Brigham and Women's Hospital. In total, researchers tracked the food intake and health of over 250,000 men and women.

Here's what the data revealed:

- Replacing saturated fat with carbohydrates did not significantly lower the risk of coronary heart disease.
- Substituting polyunsaturated or monounsaturated fat for saturated fat was associated with a large reduction in risk of coronary heart disease.
- There was an increased risk of coronary heart disease when carbohydrates were substituted for either monounsaturated or polyunsaturated fats. The risk of coronary heart disease increases for individuals who are overweight and sedentary.
- Having a high trans fat and low polyunsaturated fat intake tripled the risk of heart disease as compared with low trans fat and high polyunsaturated fat intake.
- Total fat consumption was not associated with a risk of coronary heart disease.
- Higher nut consumption was associated with a lower risk of coronary heart disease.

Switching fats versus going lowfat

In the 1960s and 1970s, research in the United States was beginning to demonstrate that lowering saturated fat intake and cholesterol could lower serum cholesterol. People followed this advice and replaced the saturated fat with the polyunsaturated kind. At the same time, rates of heart disease declined, undoubtedly at least partly because of this change in diet. Then in the 1980s, the message blurred. Reducing total fat, whatever the sort, became the focus. Carbohydrates as well as unsaturated fats began to take the place of the ousted saturated fat.

The benefits of a diet rich in healthy fats rather than one that is low in fat were clearly demonstrated by the Lyon Diet Heart Study, which began in 1988 and involved more than 5 years of follow-up. French researchers selected heart patients who had had a first heart attack and assigned participants either a Mediterranean-style diet or a Western-type diet low in total fat. Participants on the Mediterranean diet consumed more olive oil, fish, vegetables, and fruits than those on the lowfat diet. They also received supplements of omega-3 fatty acids, which help prevent heart disease and manage cholesterol levels. In this study, cholesterol levels were monitored. Researches noted that with the Mediterranean diet, high cholesterol levels continued to be an indicator of a greater risk of heart disease.

As the Lyon study progressed, the Mediterranean-style diet began to prove much more effective at preventing additional heart problems than the lowfat diet. Of those consuming the Mediterranean diet, 14 individuals had a second heart attack or fatal heart problems compared with 44 patients on the lowfat diet. In fact, the benefits of the Mediterranean diet were so pronounced that after two and a half years, the trial was stopped so that the patients on the lowfat plan could benefit from what had been learned and switch to a more healthy way of eating.

In a report of these results, published in the journal *Circulation* in 1999, the researchers admit that for any diet to be truly effective, it must be "gastronomically acceptable" to ensure compliance. No problem there! The Mediterranean diet includes the delights of Greek, Italian, and French Provençal cooking. For a sample, try the recipe for Garlic Lima Beans in Chapter 16, the Grilled Scallops and Vegetables Marinated in Herbs in Chapter 13, and Roasted Chicken with Marinated Olives, Rosemary, and Oranges in Chapter 12.

Figuring out what's best for you

The healthy fats approach to diet affords some leeway; varying amounts of healthy fats are permitted. The percent of fat is not strictly fixed, and consequently, neither is the percent of protein or carbohydrates. However, a reasonable division of calories to aim for is 30 to 35 percent of calories from fat,

50 to 55 percent of calories from carbohydrates, and 15 percent of calories from protein. You can experiment with more or less protein to see how you feel, while monitoring your weight and checking your cholesterol.

Talk with your doctor about any particular risk factors for heart disease that you may have. Diet recommendations and recipes in this book are meant to be a guide to be adapted to individual needs.

Watching carbs and cholesterol

Cholesterol problems can originate in a condition known as *metabolic syndrome* or *Syndrome X.* The phenomenon of Syndrome X was first recognized by Gerald Reaven, MD, an endocrinologist and professor emeritus of medicine at Stanford University, who initiated a series of studies that lead to its discovery.

Levels of sugar (glucose) in the blood and levels of insulin, a hormone that facilitates the storage of sugar in cells, remain high. The name for this condition is insulin resistance. Eventually the overproduction of insulin stimulates the liver to produce high amounts of VLDL cholesterol. These are "very low density lipoproteins," which are small, and dense, and convert to LDL cholesterol, the bad kind. At the same time, the production of the good HDL cholesterol declines. And in addition, triglycerides (blood fats) increase. Insulin resistance can also cause elevated blood pressure and disturbances in blood clotting. If this weren't enough, high levels of insulin and glucose in the blood also can damage the lining of the coronary arteries, making the accumulation of plaque more likely. This collection of health problems is metabolic syndrome.

To find you if you have metabolic syndrome, have a glucose tolerance test and check your levels of HDL cholesterol and triglycerides, your blood pressure, and your weight.

The dietary treatment of metabolic syndrome involves reducing carbohydrate intake and those foods that quickly raise blood sugar levels. (Reavan himself has developed a diet to treat Syndrome X. The diet consists of 40 percent calories from fat, with 5 to 10 percent saturated, 45 percent from carbs, and 15 percent from protein, plus a limit of 300 mg of cholesterol a day.)

You can tell the likely effect a food will have on blood sugar by knowing its *Glycemic Index* (GI). This is a measurement that compares carbohydrates in terms of their effect on blood glucose levels. Low GI foods receive a rating of 55 or less. Intermediate foods are in the range of 56 to 69. And high GI foods are 70 and above. The GI rating that a food receives depends upon how quickly it is digested and absorbed. Corn flakes are a high GI food and whole grain barley is low. In creating the recipes in this cookbook, I made a point of featuring ingredients with low GI ratings.

Exploring the Recipes in This Book

A diet for controlling cholesterol, as with any diet, begins with preparing food at home, and that's where the recipes in this book come in. After all, this is a cookbook!

The recipes in this book are designed for everyday cooking when time and energy are limited. They don't require that you be an expert cook to turn out something tasty. As long as you know how to do such basic tasks as stir, chop, and stick something in the oven, you'll do just fine. And while I recommend working with quality cookware, you don't need anything as specialized as a pasta maker or a tortilla press.

Relying on whole foods and traditional cuisines

All sorts of familiar and appetizing dishes fit quite naturally into a cholesterol-controlling way of eating. If you want a recipe for pretend fettuccine or odd nonfat cheesecake, this isn't the book. The recipes in this book are normal dishes made with natural ingredients.

Foods made with cholesterol-controlling ingredients can be as tasty as everyday eats and as elegant as gourmet dishes. There's no reason to suffer through anything less.

The reason these dishes are so healthy is that they're made with ingredients that are unprocessed and unrefined, with all their parts — what are known as *whole foods.* Such foods have a full complement of fiber and nutrients, many of which play a role in controlling cholesterol and maintaining heart health. A reliance on whole foods also limits your intake of trans fatty acids.

Wonderful sources of inspiration for whole foods cooking are the traditional cuisines from around the world. Dishes rely on local and seasonal foods. The recipes in this book bow to the various Mediterranean cultures, making the circuit from Morocco to Spain, France, Italy, and Greece. Asian flavors show up too with such recipes as the Steak Stir-Fry with Chinese Vegetables recipe in Chapter 14. I also give you the makings for an Indian dinner, a regular in my household, with the recipe for Chicken Tandoori with Yogurt-Mint Sauce in Chapter 12 and the Red Lentil Dal with Caramelized Onions in Chapter 16.

Don't worry. I'm not going to send you out for kefir, cuttlefish, or elk. You can find most ingredients right in your usual market. Some of the original recipes were high in saturated fat and cholesterol, so I've adapted these to suit a cholesterol-lowering diet. I also include some Western fare, such as the Chicken Gumbo with Okra in Chapter 9 and the Buffalo Meatballs in Chapter 14.

Adapting the recipes to your taste

Please put your own twist on the recipes if it suits you. Few of the specified amounts are written in stone. As you make your way through a recipe, and presumably taste your way through it, too, you'll know what to add or subtract to suit your taste. Boost the chile content if you think a dish is too mild. Skip the cilantro if you hate it. Substitute asparagus for string beans if that's the vegetable you have on hand. The recipes are meant to set a direction for your cooking, but you're still in charge. Just don't destroy the health benefits of the dish by dumping in more fat or sugary ingredients or deep-frying a dish that's meant to be baked!

The recipes use various ingredients that start out lower in fat, such as turkey sausage versus pork sausage, or an ingredient that has some of its fat removed, such as 2 percent milk.

If your physician prescribes that you follow a leaner diet, just lower the fat content of recipes further. For instance, use soy sausage instead of turkey and cook with 1 percent milk. You may also want to fiddle with the carbohydrate and protein content. Just be sure to use healthy ingredients, such as whole grains and lean meats, to keep the dish heart friendly.

Making your own recipes more heart healthy

After you try out some of the recipes in this book, it should be easy to take some of your own tried-and-true recipes and adapt them for your new cholesterol-controlling way of eating. Here's how to start:

- Use vegetables and fruits that supply soluble fiber such as carrots, green beans, strawberries, and apples.
- Make sure that a dish is full of color by adding red, orange, purple, and yellow fruits and vegetables to give yourself more antioxidants and phytonutrients.
- Prepare a main-course dish with fish instead of meat.
- Garnish with nuts.
- Replace some or all of the refined flour with whole-grain flour. At a minimum, add some vitamin- and mineral-rich wheat germ to white-wheat flour to return what was removed in processing the wheat. (For more info about flours, see Chapters 17 and 20.)
- Always cook with unprocessed oils, rather than refined cooking oil and products made with partially hydrogenated oil. Favor oils that contain monounsaturated fats and omega-3 fatty acids. (Chapter 3 tells you about these oils.)
- Skip all the white sugar, and if the recipe won't work without it, make something else.