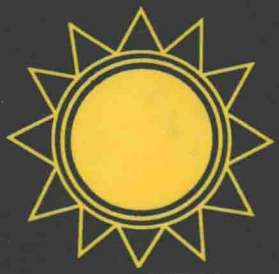

THE JOHNS HOPKINS COMPLETE GUIDE FOR AVOIDING HEART DISEASE

BEYOND CHOLESTEROL

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AUTHORITATIVE•COMPREHENSIVE•USABLE

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Beyond Cholesterol

The Johns Hopkins Complete Guide for Avoiding Heart Disease

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IMPORTANT NOTE TO THE READER

Diets, exercise programs, and the use of medications are all matters that of their very nature vary from individual to individual. You should speak with your own doctor about your individual needs before initiating any diet or exercise program. It is especially important to discuss the use of any medication with your physician. These precautionary notes are most important of all if you are already under medical care for an illness or if the use of diet or medication is being considered for your child.

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Beyond Cholesterol

This book is dedicated to my patients in the Lipid Clinic and to the participants in the Lipid Research Clinics Coronary Primary Prevention Trial and other research endeavors, who have given so much of themselves in the hope that they and future generations will be free from coronary heart disease.

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It's More Than Just Cholesterol

Cholesterol. You have heard or read the word a hundred times on television, on radio, and in the newspaper. Just about every magazine has featured articles about cholesterol, and several books have been written about how to cure it or control it. Despite all this fanfare, many Americans are still not sure what cholesterol is, or what they should be doing about it. Just a few short years ago the National Heart, Lung, and Blood Institute and the Food and Drug Administration found that although 46 percent of the respondents reported having had their blood cholesterol measured, only 7 percent actually knew what their cholesterol level was. In the same survey it was found that only 23 percent of Americans had attempted dietary changes to lower their blood cholesterol levels.

It's no wonder there is so much confusion about cholesterol. Even the truth can be misleading. A product says "No cholesterol" but is bad for you anyway because it is high in saturated fat. Another product states "Only vegetable shortening used," but the vegetable oil has been hardened by a process that increases its content of saturated fat. Just several years ago, didn't you read that olives weren't good for you? Now, all of a sudden, people are saying that olive oil is wonderful. A woman in the supermarket says, "This product has coconut oil; I'm not going to buy it, it's too high in cholesterol." She is right not to buy it, but for the wrong reason! A man says, "Why does this recipe call for egg whites, don't they know that eggs are high in cholesterol?" Eggs are; egg whites aren't.

And if it isn't confusing enough about what you should eat to help you have a healthy heart, along comes all the complicated jargon about cholesterol in your blood. You have probably heard about "good cholesterol" and "bad cholesterol," but isn't this a contradic-

tion in terms? Could someone please explain in simple terms what the difference is and why it matters?

Your next-door neighbor's husband had a heart attack. Why? His cholesterol level was perfectly normal, he wasn't overweight, and he had eaten a healthy diet for years. How can this happen? Does research on cholesterol have fundamental flaws? You might ask, "If cholesterol isn't the answer, what is? What can I do to help avoid heart disease?"

Or a doctor tells you that your child's cholesterol level is too high. You are terrified. You may wonder, "Is my child going to have a heart attack? How can that be?"

Perhaps you or your child is on the pudgy side, and you think maybe exercise would help, but then why did Jim Fixx, the health writer and marathon runner, die suddenly and unexpectedly from heart disease? Good heavens, you say, are there no absolutes? Are there no straightforward answers?

Perhaps you have already tried a diet low in cholesterol and saturated fat. Or you have jumped on the recent oat bran bandwagon to get more fiber in your diet, or the fish oil bandwagon to increase your omega-3 intake. But your cholesterol is still too high. Should you take some new wonder drug that lowers blood cholesterol and cleans it out of the body, or take any drug at all? What should you do?

You may be one of hundreds of thousands of Americans who have had coronary artery bypass surgery or coronary balloon angioplasty. You still have a lot to live for. But to understand what you can do to decrease the chance of future blockages, you need to understand the basic reasons why you developed the problem in the first place.

I have written this book because I believe it is time that an expert in cholesterol answered questions of this sort in a clear, simple manner. The American public does not need to be misled or misinformed, let alone to live in fear of food. If you read this book, you will be able to assess more completely and confidently your risk of heart disease, and you will understand better what you and your doctor can do to help you prevent it.

Nothing takes the place of experience and knowledge. Over the past seventeen years, I have worked with many adults and children who have problems with cholesterol and other fats in their bodies. I have learned firsthand what their concerns are and what needs to be done to help them increase their chances of living longer and better lives. I have taken these lessons and used them as examples to help you understand the basic points made in this book. Finally, my patients have even provided their very own favorite recipes for you.

Cholesterol is the central problem, but not the whole story. As this book's title, *Beyond Cholesterol,* implies, there are other factors that either make things worse or make things better. On the bad side, these include saturated fats, low levels of "good cholesterol," and triglyceride problems; on the good side, weight control, exercise, and the judicious use of drugs when all else fails. This book tells you, in the simplest possible language, what is known about the causes of heart disease and what you can do to avoid it, both for yourself and for those you love.

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Appendixes

PART ONE

Coronary Heart Disease and Cholesterol

CHAPTER 1

Introduction

I walked along the beach. I couldn't believe both Tracey and Barbara were gone. Only fifteen years old, they had died from complications of the most severe kind of cholesterol problem; despite a decade of work with these children, I had failed to save them. But perhaps they will not have died in vain if only people can be made to realize how important cholesterol can be. At that moment, I resolved to write this book.

There is only one chance in a million that your child has the same cholesterol problem as Tracey and Barbara. But there is one chance in four that your child's blood cholesterol level is too high, and one chance in two that your own blood cholesterol level is higher than 200 mg/dl (milligrams per deciliter), now considered at the top of the desirable range. In fact, the odds are one in four that your blood cholesterol level is above 240 mg/dl, placing you at a significantly higher risk of coronary heart disease.

Why are the odds so great that your blood cholesterol level may be too high? It could be that your diet contains too much total fat, saturated fat, cholesterol, and simple sugars, and is lacking in fiber and complex sugars. If so, you're not alone. Americans are brought up to eat plenty of meat, whole milk, cheese, ice cream, butter, and fancy desserts. It's not just your diet; other factors such as physical inactivity, obesity, diabetes, and inherited genetic conditions may be involved. In summary, both nature and nurture, both genes and diet, are important factors that can influence your blood cholesterol level and lead you to develop coronary heart disease.

Are your children at risk? This too depends both on what genes they have inherited and on the lives they lead. A heart-healthy lifestyle for your children starts with learning good nutrition and form-

ing proper eating habits. Good habits of exercise are essential and are easier to form in childhood. Understanding about foods high in calories and fat will help them from becoming obese. Knowing the dangers of smoking can help keep your teenagers away from cigarettes.

In the past twenty years, exceptional progress has been made in understanding the role of cholesterol in the development of coronary heart disease. It is now established not only that an elevated blood cholesterol level is a strong risk factor for the development of coronary heart disease, but also that lowering elevated blood cholesterol levels *decreases* deaths and heart attacks from coronary heart disease. Further, doctors now better understand the fundamental processes involved in the body's handling of cholesterol. This has led both to better diagnosis of people who have inherited types of cholesterol problems, and to more specific and effective treatment with diet and drugs.

The theme of this book is preventing coronary heart disease by recognizing and modifying risk factors, particularly the blood cholesterol level. Do you know your blood cholesterol level? If it is high, do you know why? Finally, do you know what you and your doctor can do to reduce your risk of coronary heart disease? Although it is now possible to prevent coronary heart disease by controlling cholesterol, only one in ten Americans knows his or her blood cholesterol level and what can be done to lower it. People are much more knowledgeable these days about high blood pressure and cigarette smoking, also risk factors for coronary heart disease, but few know as much about cholesterol.

Deaths from coronary heart disease in the United States have decreased over 30 percent since 1967, but in 1987 an estimated 514,000 Americans were killed by this disease (Figure 1-1) and over 700,000 others were admitted to hospitals because of heart attacks. In the same year, some 332,000 open heart operations, called coronary artery bypass grafts, were performed on patients with coronary heart disease.

More recently, a newer procedure that does not require open heart surgery, called coronary artery balloon angioplasty, has been used to treat blocked coronary arteries. Using a flexible artery-thin tube, an uninflated balloon is inserted into the artery underneath the blockage, and the balloon is then inflated to "squash down" the blockage. Coronary angioplasty procedures jumped from 6,000 in 1980 to 184,000 in 1987, and continued growth can be expected.

In all, almost five million Americans know they have coronary heart disease. They know because the blockages in their coronary

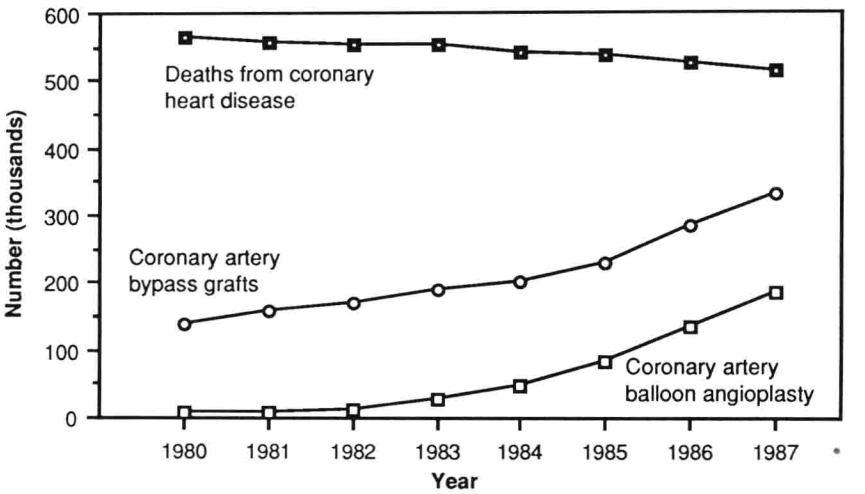

Fig 1-1. Coronary heart disease in America, 1980–1987.
Data from National Center for Health Statistics: Hospital Discharge Survey (August 1988).

arteries are so advanced that they have suffered a heart attack or other heart-related problems. Many more millions of people have "hidden" coronary artery disease. One or more of their coronary arteries have accumulated enough cholesterol to cause at least 50 percent blockages, but the blockage has not yet caused any signs of coronary heart disease such as chest pain or a heart attack.

Is it worthwhile to prevent coronary heart disease? The answer is plainly yes in personal terms; it is better to be alive than dead, better to be healthy than sick. But the answer is also yes in terms of national policy. In 1984, 1 percent of the gross national product went for coronary artery bypass operations alone, and coronary heart disease cost this country over $50 billion.

This book will give you the tools to work with your doctor to reduce your risk of coronary heart disease and avoid becoming another coronary disease statistic. In the following chapters I will translate the results of years of research into practical recommendations for you and your family, recommendations based on my own experiences with patients. Certain words and phrases that may be unfamiliar are defined in the text, and a Glossary is also provided at the end of the book. Let me begin by defining some of the common words and phrases used throughout the book.