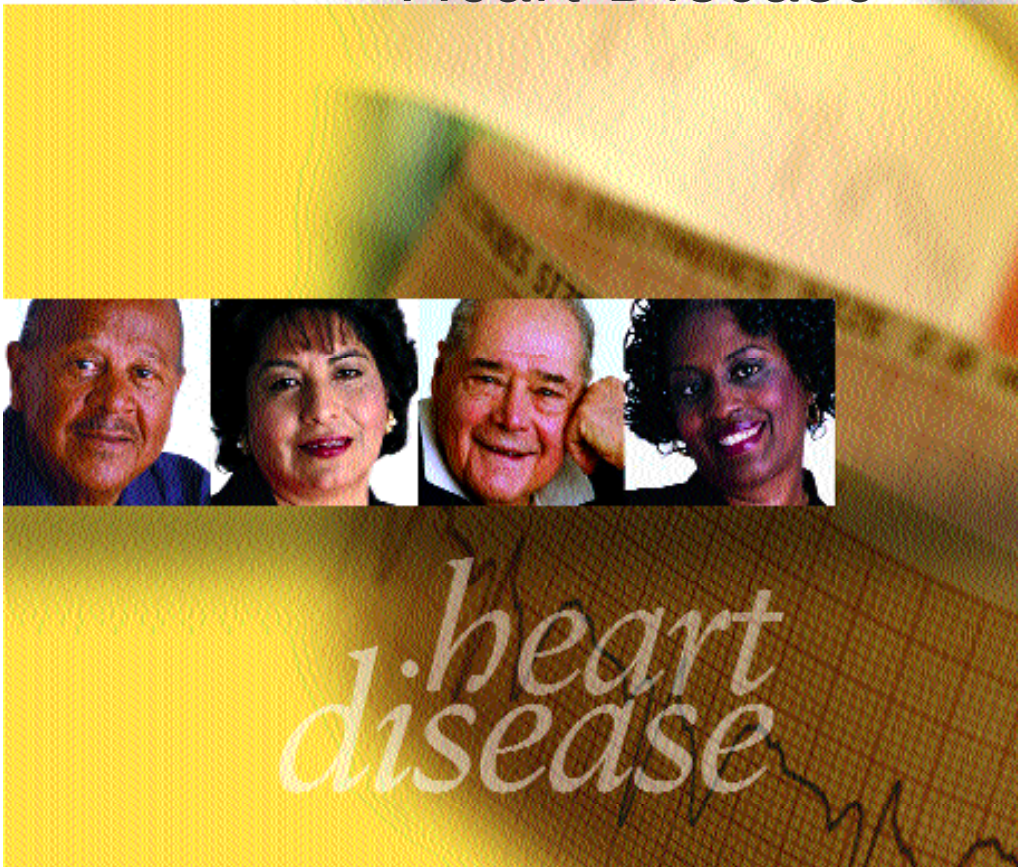


YOUR GUIDE TO

Living Well With Heart Disease



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health
National Heart, Lung, and Blood Institute

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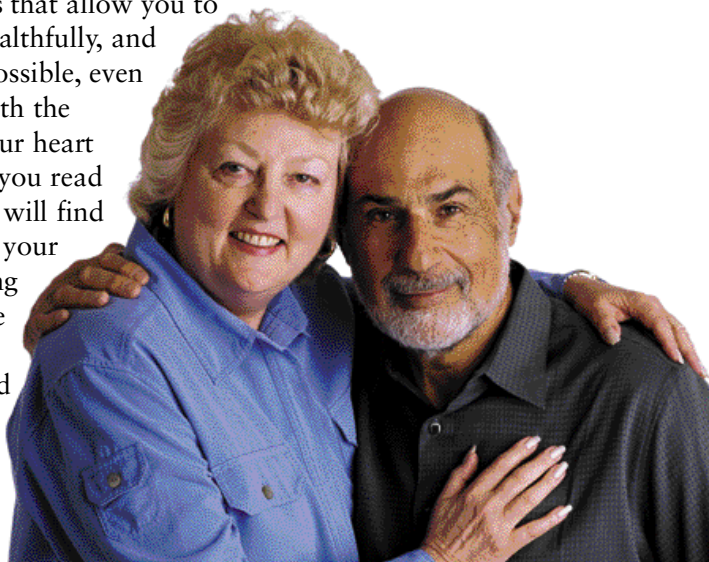
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Introduction

Chances are, you're reading this book because you or someone close to you has heart disease. Perhaps your doctor has recently told you that you have a heart condition, and you're looking for information on how to take good care of yourself. Perhaps you've known about your condition for some time and are interested in the latest knowledge on treatment and self-care. Perhaps you've recently had a heart attack or heart surgery and want some guidance on making the best possible recovery.

This book will address all of these concerns. It is a step-by-step guide to helping people with heart disease make decisions that will protect and improve their heart health. It will give you information about lifestyle habits, medicines, and other treatments that can lessen your chances of having a heart attack—either a first attack or a repeat one. If you have already had a heart attack or have undergone a heart procedure, you will find guidance on how to recover well, both physically and emotionally.

But this book is not just about preventing and treating problems. It is also about how to live well with heart disease. It will help you to make decisions that allow you to live as fully, healthfully, and enjoyably as possible, even as you cope with the demands of your heart condition. As you read this book, you will find that caring for your heart and caring for yourself are deeply intertwined. To find out why and how, read on.



Heart Disease: A Wakeup Call

If you have heart disease, you may understandably hope that it's only a temporary ailment, one that can be cured with medicine or surgery. But heart disease is a lifelong condition: Once you have it, you'll always have it. It's true that procedures such as angioplasty and bypass surgery can help blood and oxygen flow more easily through the coronary arteries that lead to the heart. But the arteries remain damaged, which means that you're more likely to have a heart attack. It is sobering, yet important, to realize that the condition of your blood vessels will steadily worsen unless you make changes in your daily habits. Many people die of complications from heart disease, or become permanently disabled. That's why it is so vital to take action to control this serious condition.

The good news is that you can control heart disease. There is much you can do to manage your heart condition, reduce your risk of a first or repeat heart attack, and improve your chances of living a long, rewarding life. The sooner you get started, the better your chances of avoiding further heart problems, feeling better, and staying well. So use this handbook to find out more about your own heart condition and what you can do to improve it. You have the power to make a positive difference in your heart health—and you can start making that difference today.

WILBUR "MAC" MCCOTTRY

“My real wakeup call came about 2 weeks after my heart bypass operation. The doctor said he did all he could to save my life and the rest was up to me. Well, those words shook me up. I knew exactly what he meant: lose the weight, quit smoking, exercise more, and make changes to my diet. So I took it very, very seriously. I lost 70 lbs. I am walking 2 miles three times a week in a program at the mall.”



What Is Heart Disease?

Coronary heart disease is the main form of heart disease. It occurs when the coronary arteries, which supply blood to the heart muscle, become hardened and narrowed due to a buildup of plaque on the arteries' inner walls. Plaque is the accumulation of cholesterol, fat, and other substances. As plaque continues to build up in the arteries, blood flow to the heart is reduced.

Coronary heart disease—often simply called heart disease—can lead to a heart attack. A heart attack happens when a cholesterol-rich plaque bursts and releases its contents into the bloodstream. This causes a blood clot to form over the plaque, totally blocking blood flow through the artery and preventing vital oxygen and nutrients from getting to the heart. A heart attack can cause permanent damage to the heart muscle.

Heart disease includes a number of other serious conditions, including:

Angina. More than 6 million Americans live with angina, which is chest pain or discomfort that occurs when the heart muscle is not getting enough blood. The inadequate blood flow is caused by narrowed coronary arteries, due to an accumulation of plaque. A bout of angina is not a heart attack, but it means that you're more likely to have a heart attack than someone who doesn't have angina. There are two kinds of angina:

Stable angina has a recognizable pattern. It may feel like pressure or a squeezing pain in your chest. The pain may also occur in your shoulders, arms, neck, jaw, or back. It may also feel like indigestion. Stable angina pain is generally brought on by some kind of exertion or strain (such as climbing stairs or experiencing emotional stress), and it is usually relieved by rest or medicine.

Unstable angina is more serious than stable angina. Occurring at any time, unstable angina often reflects a change in a previously stable

pattern of angina. Episodes of unstable angina are usually more frequent, painful, and longer lasting than bouts of stable angina, and are less often relieved by rest or medicine. Unstable angina is a sign that you may have a heart attack very soon. The symptoms are the same as if you are having a heart attack. (See page 46 for heart attack warning signs.) If you have any of these symptoms, you should call 9–1–1 right away so that you can get immediate treatment.

Congestive heart failure. Congestive heart failure is a life-threatening condition in which the heart cannot pump enough blood to supply the body's needs. Affecting nearly 5 million Americans, heart failure occurs when excess fluid collects in the body as a result of heart weakness or injury. This condition leads to a buildup of fluid in the lungs, causing swelling of the feet, tiredness, weakness, and breathing difficulties.

High blood pressure is the leading cause of congestive heart failure in the United States. Heart disease and diabetes are also major underlying causes of heart failure. People who have had a heart attack are at high risk of developing this condition.

Arrhythmias.

Arrhythmias are problems that affect the electrical system of the heart muscle, producing abnormal heart rhythms. Many factors can contribute to arrhythmias, including heart disease, high blood pressure, diabetes, smoking, heavy alcohol use, an electrolyte imbalance, drug abuse, and stress.

Certain medicines,



dietary supplements, and herbal remedies also cause arrhythmias in some people.

A common type of arrhythmia is called **atrial fibrillation**, a disorder affecting 2.2 million Americans. It is more common in older people and those with certain inborn heart problems. Atrial fibrillation occurs when the heart's two upper chambers (the atria) quiver instead of beating normally. Blood isn't pumped completely out of these chambers, making it more likely to pool and clot. If a clot leaves the heart and becomes lodged in an artery in the brain, a stroke results. About 15 percent of strokes occur in people with atrial fibrillation.

Another type of arrhythmia called **ventricular fibrillation** occurs when the lower heart chambers (the ventricles) quiver, preventing the heart from effectively pumping blood. This is the most dangerous type of heart rhythm disturbance. To prevent collapse and sudden cardiac death, it is vital to get immediate emergency medical help for ventricular fibrillation.

Getting Tested for Heart Disease

You may be reading this book because you think you might have heart disease but aren't yet sure. Keep in mind that heart disease doesn't always announce itself with symptoms. That means you could have heart disease and still feel perfectly fine. The best course is to talk with your doctor about your personal degree of heart disease risk and about whether getting tested is a good idea.

Most screening tests for heart disease are done outside of the body and are painless. After taking a careful medical history and doing a physical examination, your doctor may give you one or more of the following tests:

Electrocardiogram (ECG or EKG) makes a graph of the heart's electrical activity as it beats. This test can show abnormal heartbeats, heart muscle damage, blood flow problems in the coronary arteries, and heart enlargement.

Stress test (or treadmill test or exercise ECG) records the heart's electrical activity during exercise, usually on a treadmill or exercise bike. If you are unable to exercise due to arthritis or another health condition, a stress test can be done without exercise. Instead, you can take a medicine that increases blood flow to the heart muscle and shows whether there are any problems in that flow.



Nuclear scan (or thallium stress test) shows the working of the heart muscle as blood flows through the heart. A small amount of radioactive material is injected into a vein, usually in the arm, and a camera records how much is taken up by the heart muscle.

Echocardiography changes sound waves into pictures that show the heart's size, shape, and movement. The sound waves also can be used to see how much blood is pumped out by the heart when it contracts.

Coronary angiography (or angiogram or arteriography) shows an x ray of blood flow problems and blockages in the coronary arteries. A thin, flexible tube called a catheter is threaded through an artery of an arm or leg up into the heart. A dye is then injected into the tube, allowing the heart and blood vessels to be filmed as the heart pumps. The picture is called an angiogram or arteriogram.

Ventriculogram is frequently a part of the x-ray dye test described before. It is used to get a picture of the heart's main pumping chamber, typically the left ventricle.

Intracoronary ultrasound uses a catheter that measures blood flow. It creates a picture of the coronary arteries that shows the thickness and other features of the artery wall. This lets the doctor see blood flow and any blockages.

In addition, several new, highly sensitive screening tests have been developed.

Ask your doctor about these tests:

Carotid doppler ultrasound uses sound waves to detect blockages and narrowing of the carotid artery in the neck, both of which can signal an increased risk for heart attack or stroke.

Electron-beam computed tomography is a superfast scan that provides a snapshot of the calcium buildup in your coronary arteries.



Should You Get a Heart Test at the Local Mall?

Recent media attention has raised public interest in the “total body scan” or “virtual scan,” now offered at many malls around the country. This is a computed tomography (CT) scan that quickly screens for a number of diseases, including heart disease. Is the total body scan a good way to find out whether you have a heart condition?

Probably not. One of the problems with many mall-based body scans is that they use types of CT scanners known as spiral or helical. Neither of these types of scanners has proven effective for heart imaging. Furthermore, some spiral scanners transmit relatively high doses of radiation.

A CT heart scan should be performed using the U.S. Food and Drug Administration-approved, electron-beam CT scanner, which is lower in radiation. This type of scanner is available primarily in hospitals and other traditional health care settings. Getting tested in a medical setting also allows your doctor to interpret the results for you and evaluate your need for further testing.

Heart Test

It can pick up heart disease before you feel any symptoms. While promising, this test is not foolproof and requires careful evaluation by your doctor. (See “Should You Get a Heart Test at Your Local Mall?” above.)

Magnetic resonance imaging (MRI) is a scan using magnets and computers to create high-quality images of the heart’s structure and functioning. It is often used to evaluate congenital heart disease. The test can also detect severe blockages in coronary arteries in people who are having unstable angina or a heart attack, thereby allowing immediate treatment to restore blood flow to the heart.

Controlling Your Risk Factors

If you have heart disease, you may wonder *why* you have it. The answer is that many personal characteristics, health conditions, and lifestyle habits can contribute to heart disease. These are called risk factors.

But risk factors do more than simply contribute to heart problems. They also increase the chances that existing heart disease will worsen. Since you already have heart disease, it is very important to find out about all of your risk factors and take active steps to control them.

Certain risk factors, such as getting older, can't be changed. Starting at age 45, a man's risk of heart disease begins to rise, while a woman's risk begins to increase at age 55. Family history of early heart disease is another risk factor that can't be changed. If your father or brother had a heart attack before age 55, or if your mother or sister had one before age 65, you are more likely to develop heart disease yourself.

While certain risk factors can't be changed, it's important to realize that you do have control over many others. Regardless of your age or family history, or how serious your heart disease is, you can take steps to reduce your risk of a first or repeat heart attack. You can also manage other problems associated with heart disease, such as angina, heart failure, and arrhythmias.

It may be tempting to believe that doing just one healthy thing will be enough to control heart disease. For example, you may hope that if you walk or swim regularly, you can still eat a lot of fatty foods and stay safe. Not so. To reduce your risk of a heart attack and other complications, it is vital to make changes that address each risk factor you have. You can make the changes gradually, one at a time. But making them is very important.

ROSARIO MOJICA

“ I recently had a physical and was surprised to hear my doctor say I have several risk factors for heart disease. Around the same time, I saw a TV special about heart disease and its complications and risks, so it really hit home. I’m concerned about this and want to change it. I have to lose weight and reduce my cholesterol. This is just the beginning of a long battle and I know it won’t be easy, but I know I have to do it. ”



While each risk factor may contribute to worsened heart disease, the more risk factors you have, the higher your risk. That's because risk factors tend to "gang up" and worsen each other's effects. For example, if you have high blood cholesterol and diabetes, your heart attack risk increases enormously. The message is clear: If you have heart disease, you must take immediate steps to reduce your risk of life-threatening medical problems. It's your heart and you have everything to gain from taking good care of it.

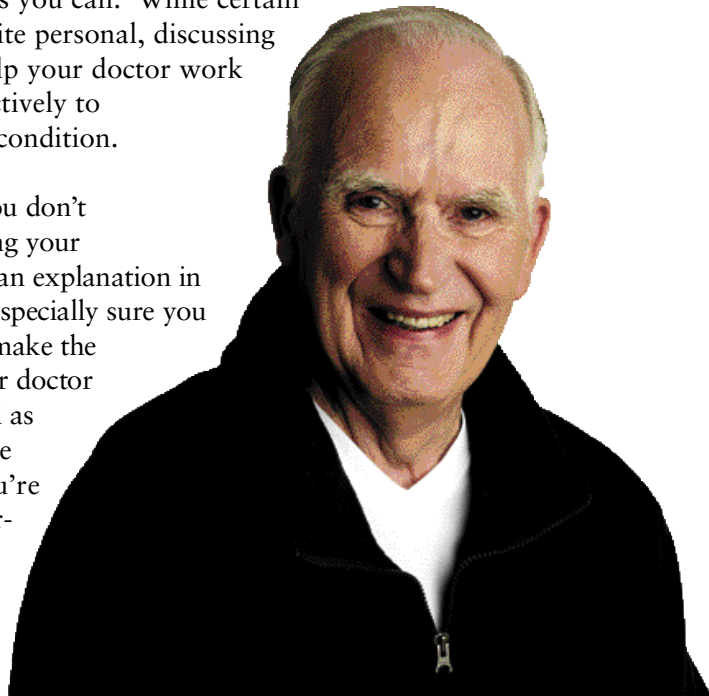
You and Your Doctor: A Healthy Partnership

Your doctor can be an important partner in helping you manage heart disease. He or she may already have spoken with you about your heart disease risk factors, but if not, be sure to ask about how to control all of them to help prevent future problems. Here are some tips for establishing good, clear communication with your doctor.

Speak up. Tell your doctor that you want to keep your heart disease from getting worse and would like help in achieving that goal. Ask questions about your chances of having a first heart attack or a repeat heart attack, your risk of other heart complications, and ways to lower those risks. If you haven't done so already, ask for tests that will determine your personal risk factors.

Be open. When your doctor asks you questions, answer them as honestly and fully as you can. While certain topics may seem quite personal, discussing them openly can help your doctor work with you more effectively to manage your heart condition.

Keep it simple. If you don't understand something your doctor says, ask for an explanation in plain language. Be especially sure you understand how to make the lifestyle changes your doctor recommends, as well as why and how to take each medication you're given. If you're worried about understanding what the



doctor says, or if you have trouble hearing, bring a friend or relative with you to your appointment. You may want to ask that person to write down the doctor's instructions for you.

Major Risk Factors

A strong partnership with your doctor is an important first step in managing heart disease. But to make a lasting difference, you'll also need to learn more about the kinds of habits and conditions that can worsen heart disease and what you can do about them. What follows is a guide to major risk factors for heart disease, heart attack, and other heart problems, and steps you can take to control or eliminate them.

Smoking

Smoking is the "leading cause of preventable death and disease in the United States," according to the Centers for Disease Control and Prevention. If you have heart disease and continue to smoke, your risk of having a heart attack is very high. If you live or work with others, your "secondhand" smoke can cause them numerous health problems, including a higher risk of heart attack—even if they don't smoke themselves. By the same token, if you have heart disease and live or work with someone who smokes, your own risk of heart attack goes up considerably.

Smoking puts stress on the heart in many ways. The nicotine in cigarettes constricts the coronary arteries, which raises blood pressure and forces the heart to work harder. Smoking also raises carbon monoxide levels and reduces oxygen levels in the blood. It's a double whammy: Smoking both increases the heart's need for oxygen and restricts the amount of oxygen it receives.

There is simply no safe way to smoke. Low-tar and low-nicotine cigarettes do not lessen the risks of a heart attack. The only safe and healthful course is not to smoke at all.

The good news is that quitting smoking will immediately and significantly reduce your risk of further heart disease complications. After a few days, once nicotine and carbon monoxide are cleared from your body, your blood pressure will go down and the levels of oxygen and carbon monoxide in your blood can return to normal. Within 1 year after quitting, your blood flow and breathing will be improved and your coughing and shortness of breath will be reduced.

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