

Healthy Heart Handbook for Women

Your Guide to a Strong Heart
&
Healthy Lifestyle

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THE HEALTHY HEART

This guide is written for women, and for those who love them. Heart disease is every woman's concern. It is not a condition that affects only men. This handbook tells you why you should be concerned about your own heart health, and what you can do to prevent heart disease. If you know you have heart disease, this booklet also suggests lifestyle changes that can help you protect your health. For every woman, a little prevention can have a big payoff – a longer, healthier, more active life.

Each year, about 370,000 women die of heart disease, making it the No.1 killer of American women. Another 93,000 women die each year of stroke. Although death rates from heart disease and stroke have declined in recent years, these conditions still rank first and third, respectively, as causes of death for women.

Overall, about 9 million American women of all ages suffer from heart disease. One in 10 women 45 to 64 years of age has some form of heart disease, and this increases to about one in four in women older than 65. Each year, a half million women suffer heart attacks, so cardiovascular diseases and their prevention are pressing personal concerns for every woman.

All women are at risk for heart disease. Women of color are at greater risk.

WHAT ARE CARDIOVASCULAR DISEASES?

Cardiovascular diseases are diseases of the heart and blood vessel system, such as coronary heart disease, heart attack, high blood pressure, stroke, angina (chest pain), and rheumatic heart disease. Coronary heart disease – the primary subject of this handbook – is a disease of the blood vessels of the heart that causes heart attacks. A heart attack happens when an artery becomes blocked, preventing oxygen and nutrients from getting to the heart. A stroke results from a lack of blood to the brain, or, in some cases, bleeding in the brain.

Some women have more risk factors for cardiovascular diseases than others do. Risk factors are traits or habits that make a person more likely to develop a disease. Some risk factors for heart-related problems cannot be changed, but cardiovascular diseases that you can control are cigarette smoking, high blood pressure, high blood cholesterol, being overweight, and lack of physical activity.

Other risk factors, such as diabetes, are over which you have some control. Although growing older is a risk factor that cannot be changed, it is important to realize that other risks can be reduced at any age. This handbook identifies some key risk factors that you can do something about, and suggests changes in living habits to help prevent or control cardiovascular diseases.



WHO GETS CARDIOVASCULAR DISEASES?

Some groups of women are more likely to develop cardiovascular diseases than other groups.

- ?? African-American women are 60 percent more likely to die of coronary heart disease than are white women, and their death rate for stroke is 24 percent higher.

- ?? Older women have a greater chance of developing cardiovascular diseases than younger women do, partly because the tendency to have heart-related problems increases with age. Older women, for example, are more likely to develop high blood pressure and high blood cholesterol levels, to be diabetic, to be overweight, and to be less physically active than younger women.

- ?? Also, after menopause, women are more apt to get cardiovascular diseases, in part because their bodies produce less estrogen. Women who have had early menopause, either naturally or because their ovaries have been surgically removed, are twice as likely to develop coronary heart disease as women of the same age who have not begun menopause.

While any one risk factor will raise your chances of developing or worsening heart-related problems, the more risk factors you have, the more concerned you should be about prevention. If you smoke cigarettes and have high blood pressure, for example, your chance of developing coronary heart disease goes up dramatically. If you smoke, have high blood pressure, and also have high blood cholesterol, your risk is five times that of women who have no risk factors.

We're Making Progress

Changing habits isn't easy – but experience shows that it works. As Americans have learned to control blood pressure and make healthy changes in their eating, smoking and exercise habits, death rates from heart attack and stroke have dropped dramatically. Between 1987 and 1997 the death rate from heart attack declined 24.5 percent.

More specifically, in 1997 coronary heart disease death rates were 139.7 (per 100,000 people) for white females and 160.1 for African-American females. Cardiovascular diseases remain the leading cause of death for American women. But the message is clear: By taking an active role in your own heart health, you can make a difference. Beginning with the chapter on "Self-Help Strategies for a Healthy Heart," this handbook supplies a number of practical tips to help you get started. For more information about other organizations and materials available to help you, see "Resources for a Healthy Heart" on page G45.

MAJOR RISK FACTORS

Smoking

Cigarette smoking has been described as "the most important individual health risk in this country." Approximately 23 million American women smoke. Although the smoking rate for women dropped 11 percent between 1965 and 1990, women who smoke today are apt to smoke more heavily than they did in the past.

Surprising as it may seem, smoking by women in the United States causes almost as many deaths from heart disease as from lung cancer. Women who smoke are two to six times as likely to suffer a heart



attack as nonsmoking women, and the risk increases with the number of cigarettes smoked per day. Smoking also boosts the risk of stroke.

Cardiovascular diseases are not the only health risks for women who smoke. Cigarette smoking greatly increases the chances that a woman will develop lung cancer. In fact, the lung cancer death rate for women is now higher than the death rate for breast cancer, the chief cause of cancer deaths in women for many years. Cigarette smoking is also linked with cancers of the mouth, larynx, esophagus, urinary tract, kidney, pancreas and cervix. Smoking also causes 80 percent of cases of chronic obstructive lung disease, which includes bronchitis and emphysema.

Smoking is also linked to a number of reproductive problems. Women who smoke are more apt to have problems getting pregnant and to begin menopause at a slightly younger age. Cigarette use during pregnancy poses serious risks for the unborn; babies of women who smoked during pregnancy tend to weigh less at birth than babies of nonsmokers. Smoking while pregnant also increases risks of bleeding, miscarriage, premature delivery, stillbirth and sudden infant death syndrome, or "crib death." Moreover, young children who are exposed to a parent's cigarette smoke have more lung and ear infections.

There is simply no safe way to smoke. Although low-tar and low-nicotine cigarettes may reduce the lung cancer risk to some extent, they do not lessen the risks of heart disease or other smoking-related diseases. The only safe and healthful course is not to smoke at all.

High Blood Pressure

High blood pressure, also known as hypertension, is another major risk factor for coronary heart disease and the most important risk factor for stroke. Even slightly high levels double the risk. High blood pressure also increases the chances of developing congestive heart failure (see box below) and kidney disease.

Congestive Heart Failure - Another Reason to Control Your Blood Pressure

High blood pressure is the No. 1 risk factor for congestive heart failure, a serious condition in which the heart is unable to pump enough blood to supply the body's needs. As a result, blood gets backed up in the veins and begins to seep into surrounding tissues. Congestive Heart Failure occurs when excess fluid starts to leak into the lungs, causing breathing difficulties, fatigue and weakness, and sleeping problems. In recent years, rates of hospitalization and death for CHF have been increasing in older Americans, especially among women. One reason may be that many women do not adequately control their high blood pressure.

Older women must be especially careful to continue taking blood pressure medication regularly - and also to take the right amount. To prevent CHF, as well as stroke, blood pressure must be controlled to 140/90 mmHg or lower. However, many women who are taking medication still have blood pressure that is dangerously high. If your blood pressure is higher than 140/90 mmHg, talk with your doctor about adjusting your medication and making lifestyle changes that will result in a blood pressure of 140/90 mmHg or lower.

Nearly 50 million Americans have high blood pressure, and about half of them are women. Older women have a higher risk, with more than half of all women older than 55 suffering from this condition. High



blood pressure is more common and more severe in African-American women than in white women. Use of birth-control pills can contribute to high blood pressure in some women.

Blood pressure is the amount of force exerted by the blood against the walls of the arteries. Everyone has to have some blood pressure so that blood can get to the body's organs and muscles. Usually, blood pressure is expressed as two numbers, such as 120/80, and is measured in millimeters of mercury (mmHg). The first number is the systolic blood pressure, the force used when the heart beats. The second number, or diastolic blood pressure, is the pressure that exists in the arteries between heartbeats. Depending on your activities, blood pressure may move up or down in the course of a day. Blood pressure is considered high when it stays above normal levels over a period of time.

High blood pressure is sometimes called the "silent killer" because most people who have it do not feel sick. Therefore, it is important to have it checked whenever you see your doctor or other health professional. Blood pressure can be easily measured by means of the familiar stethoscope and inflatable cuff placed around one arm.

However, since blood pressure changes so often and is affected by many factors, your health professional should check it on several days before deciding whether your blood pressure is too high. If your blood pressure stays at 140/90 mmHg or above, you have high blood pressure. Although high blood pressure can rarely be cured, it can be controlled with proper treatment. If your blood pressure is not too high, you may be able to control it entirely through weight loss if you are overweight; regular physical activity; and cutting down on alcohol, salt and sodium. (Sodium is an ingredient in salt that is found in many packaged foods, carbonated beverages, baking soda and some antacids.)

It may also help to include more fruits and vegetables that are good sources of potassium, in addition to low- and nonfat dairy products and some vegetables that are a good source of calcium. However, if your blood pressure remains high, your doctor will probably prescribe medicine in addition to the above changes, especially if you already have heart disease. The lifestyle changes described above will help the medicine work more effectively. In fact, if you are successful with the changes you make in your living habits, the amount of medicine you take may be gradually reduced.

While few people like the idea of taking any medicine for a long time, the treatment benefits are real and will reduce the risk of stroke, heart attack, congestive heart failure and kidney disease. If you are prescribed a drug to control high blood pressure and have any uncomfortable side effects, ask your doctor about changing the dosage or possibly switching to another type of medicine.

A reminder: It is very important to take a blood pressure medication exactly as your doctor has prescribed it. If you are not sure about your doctor's instructions, call to ask about the amount of medicine you are supposed to take each day, and the specific times of day you should take it. During pregnancy, some women develop high blood pressure for the first time. Between 10 percent and 20 percent of first-time mothers develop a high blood pressure problem called pre-eclampsia during pregnancy. Other women who already have high blood pressure may find that it worsens during pregnancy. If untreated, these conditions can be life-threatening to both mother and baby. Since a woman can feel perfectly normal and still have one of these conditions, it is important to get regular prenatal checkups so that your doctor can discover and treat a possible high blood pressure problem.



For women with a type of high blood pressure called isolated systolic hypertension, there is good news. By treating ISH with a blood-pressure-lowering drug such as a diuretic, it is possible to reduce the risk of stroke and coronary heart disease. If you know you have ISH and are already doing well on another type of blood-pressure-lowering drug, you should not necessarily switch medicines. But you may want to discuss with your doctor whether or not you have ISH and, if so, what is the best treatment for you.

Are Calcium Channel Blockers Safe?

A few people with high blood pressure or certain heart disorders take a medication known as short-acting nifedipine, which is a type of calcium channel blocker, or CCB. Recent research, however, found that patients taking short-acting nifedipine – especially in high doses – were more likely to have another heart attack, and also more likely to die of a heart attack. As a result, physicians have been advised to prescribe this medication to patients with caution, if at all, or to change to another kind of medication. It is important to understand, however, that short-acting nifedipine is one of several kinds of CCBs. It is unclear whether the other types, such as verapamil and diltiazem, are also risky. Also, some CCBs are available in two forms, short-acting (requiring several daily doses) and long-acting (requiring one daily dose). While short-acting nifedipine does increase heart attack risk, it is not yet known whether the long-acting form of nifedipine also increases risk.

If you are currently taking short-acting nifedipine, talk with your doctor as soon as possible to find out whether you should switch to another medication. If you are taking another kind of CCB, you might also want to ask your doctor about other medication choices. This new information should not discourage you from taking medicine for high blood pressure or heart disorders. Drug treatment for high blood pressure helps prevent stroke, heart attack, congestive heart failure and kidney disease.

Other types of medication, such as diuretics and beta-blockers, are safe and effective treatments for most people with high blood pressure.

High Blood Cholesterol

High blood cholesterol is another important risk factor for coronary heart disease that you can do something about. All women should keep their cholesterol levels down to lessen the chance of developing heart disease. For those who already have heart disease, it is particularly important to take action to treat elevated blood cholesterol to prevent a future heart attack.

Although young women tend to have lower cholesterol levels than young men, between the ages of 45 and 55, women's cholesterol levels begin to rise higher than men's. After age 55, the gap between women and men becomes still wider. The higher a woman's blood cholesterol level, the higher her heart-disease risk. Today, about one-quarter of American women have blood cholesterol levels high enough to pose a serious risk for coronary heart disease.

Cholesterol and the Heart

The body needs cholesterol to function normally. However, the body makes all of the cholesterol that it needs. Over a period of years, extra cholesterol and fat circulating in the blood are deposited in the walls of the arteries that supply blood to the heart. These deposits make the arteries narrower and narrower. As a result, less blood gets to the heart, and the risk of coronary heart disease increases.



Cholesterol travels in the blood in packages called lipoproteins. Low-density lipoprotein carries most of the cholesterol in the blood. Cholesterol packaged in LDL is often called "bad" cholesterol, because too much LDL in blood can lead to cholesterol buildup and blockage in the arteries.

Another type of cholesterol, which is packaged in high-density lipoprotein, is known as "good" cholesterol. That is because HDL helps remove cholesterol from the blood, preventing it from piling up in the arteries. All women older than 20 should have their blood cholesterol checked. However, the testing process and the steps to improve cholesterol levels will depend on your current health status. The following sections describe the steps for managing cholesterol levels for two types of women: those who do not have heart disease, and those who do have heart disease.

If You Do Not Have Heart Disease

Getting Your Cholesterol Checked. Blood cholesterol levels are measured by a small blood sample. The blood should be tested for total cholesterol and, if an accurate measurement is available, for HDL cholesterol as well. You do not have to fast or do anything special before having this blood test.

Understanding the Numbers. A desirable total cholesterol level for adults without heart disease is less than 200 mg/dL (or 200 milligrams of cholesterol per deciliter of blood). A level of 240 mg/dL or higher is considered "high" blood cholesterol. But even levels in the "borderline-high" category (200-239 mg/dL) still increase the risk of heart disease.

Before age 45, the total blood cholesterol level of women averages less than 200 mg/dL. But between the ages of 45 and 55, women's average cholesterol level rises to almost 220 mg/dL, and to nearly 240 mg/dL for women between the ages of 55 and 64. Women who have a cholesterol level higher than 240 mg/dL are more than twice as likely to develop heart disease as women with levels of less than 200 mg/dL. HDL levels are interpreted differently than total cholesterol levels. The lower your HDL level, the higher your heart disease risk. An HDL level of less than 40 is a major risk factor for heart disease. The higher your level, the less risk you incur. A level of 60 or higher is considered protective.

Total and HDL cholesterol are measured first. Depending on what these initial measurements show and whether you have any other heart-disease risk factors, your doctor may want to measure your LDL level as well (see box on next page). For this test, you should have nothing to eat or drink except water (or black coffee or tea) for nine to 12 hours beforehand.

An LDL level lower than 130 mg/dL is desirable. LDL levels of 130-159 mg/dL are borderline-high. Levels of 160 mg/dL or above are high. As with total cholesterol, the higher the LDL number, the higher the risk. See the "If, then" chart on the next page.

Prevention and Treatment - If your tests show that your blood cholesterol levels are in the desirable range, congratulations! To help keep your levels healthy, it will be important to eat a low-saturated-fat, low-cholesterol diet, get regular physical activity, and control your weight. (See the specific suggestions on maintaining healthy blood cholesterol levels in the "Prevention" section of this handbook, which starts on page G1). Saturated fat raises your blood cholesterol more than anything else in your diet.

If your blood cholesterol levels are too high, your doctor may recommend a specific treatment program for you. For most people, cutting back on foods high in saturated fat and cholesterol will lower both total



and LDL cholesterol. Regular physical activity and weight loss for overweight persons also will lower blood cholesterol levels. Losing extra weight, as well as quitting smoking and becoming more physically active, may help boost your HDL cholesterol levels. Although we don't know for sure that raising HDL levels in this way will reduce the risk of coronary heart disease, these measures are likely to be good for your heart in any case.

IF YOUR TEST RESULTS ARE ____: THEN:

If total cholesterol is less than 200 mg/dL and HDL is 40 mg/dL or greater

Then, You are doing well and should have your total and HDL cholesterol levels checked again in about five years. In the meantime, take steps to keep your total cholesterol level down: eat the right foods, maintain a healthy weight, and be physically active. The last two steps, along with not smoking, will help keep your HDL level up.

If, total cholesterol is 200-239 mg/dL and HDL is 40 mg/dL or greater

Then, Your doctor will see if you have other risk factors for heart disease and determine whether more tests need to be done. No matter what your risk is, it is important to eat foods low in saturated fat and cholesterol, to maintain a healthy weight, and to be physically active.

Total cholesterol is 240 mg/dL or greater or HDL is less than 40 mg/dL

Then, you will need a lipoprotein profile to find out your LDL

cholesterol level. You need to fast for nine to 12 hours before the test, having nothing but water, or coffee or tea with no cream or sugar.

If your new diet and other lifestyle changes do not lower your blood cholesterol level enough, your doctor may suggest that you take cholesterol-lowering medications (see box below). If you have other risk factors for heart disease, you will need to lower your cholesterol more than someone without risk factors.

Cholesterol-Lowering Medicines

Your doctor may recommend medication as part of your cholesterol-lowering treatment plan. This is more likely if you have heart disease, if you have very high LDL levels, or if you have high blood cholesterol in combination with other heart-disease risk factors.

If your doctor does prescribe medicines, you must also continue your cholesterol-lowering diet along with physical activity and weight control. These lifestyle changes lower your risk in many ways, not just by lowering your cholesterol levels. The combination of lifestyle changes and medicine may also allow you to take less medication. The most commonly used cholesterol-lowering medicines are:

~*Statins.* Statins are used by patients with high total and high LDL cholesterol levels. Of all available medications, statins lower LDL cholesterol the most, with reductions of 20 percent to 60 percent. Currently available statins are lovastatin, simvastatin, pravastatin, fluvastatin, and atorvastatin. Side effects are usually mild, although liver and muscle problems occur rarely.

~*Bile acid sequestrants.* The major effect of this medication is to lower LDL cholesterol by about 10 percent to 20 percent. Bile acid sequestrants are often prescribed with statin medicine for patients with heart disease to increase cholesterol reduction. Side effects may include constipation, bloating, nausea and gas. However, long-term use of these medications is considered safe.



~*Nicotinic acid*. Nicotinic acid, or niacin, lowers total cholesterol, LDL cholesterol and triglyceride levels, while raising HDL cholesterol levels. While nicotinic acid is available without a prescription, it is very important to use it only under a doctor's care because of possibly serious side effects. In some people, nicotinic acid may inflame peptic ulcers or cause liver problems, gout or high blood sugar.

If You Have Heart Disease

Women who have heart disease should pay even more attention to their cholesterol levels. An individual with heart disease has a much greater risk of having a future heart attack than a person without heart disease. Recent studies show that, even if your cholesterol level is not elevated, lowering it can greatly reduce your risk of a future heart attack and may actually prolong your life.

Getting Your Cholesterol Checked - Since you have heart disease, you will need to have a blood test called a lipoprotein profile. This test will determine not only your total cholesterol and HDL cholesterol levels, but also your LDL cholesterol level and levels of another fatty substance called triglycerides (see box below). In order to take this test, you should have nothing to eat or drink except water (or coffee or tea with no cream or sugar) for nine to 12 hours beforehand.

What are Triglycerides?

Triglycerides are another type of fat found in the blood and in food. Triglycerides are made up of saturated, polyunsaturated and monounsaturated fats. They are produced in the liver. When alcohol or excess calories are taken in, the liver produces more triglycerides. Extremely high levels of triglycerides can cause a dangerous inflammation of the pancreas called pancreatitis. Fortunately, this is uncommon. Some people with coronary heart disease have high triglyceride levels. However, more research is needed to determine whether high triglycerides themselves cause narrowing of the arteries or are simply associated with other blood fat abnormalities and other risk factors (such as low levels of HDL cholesterol and being overweight) that may increase the risk for coronary heart disease. Most people with raised triglycerides are also overweight, and weight reduction usually lowers the elevated levels.

To reduce blood triglyceride levels, doctors recommend a low -fat, low-calorie diet, weight control, more physical activity, and no alcohol. Occasionally, medication is needed.

Understanding the Numbers - Your goal should be to have a LDL cholesterol level of about 100 mg/dL or less, which is lower than the level for people who do not have heart disease. Depending on what your LDL level is, your next steps will be the following:

- *If your LDL level is 100 mg/dL or less*, you do not need to take specific steps to lower your LDL. But you will need to have your level tested again in one year. In the meantime, you should closely follow a diet low in saturated fat and cholesterol, maintain a healthy weight, be physically active, and not smoke. You should also follow the specific recommendations of your doctor.
- *If your LDL level is higher than 100 mg/dL*, you will need a complete physical examination to find out if you have a disease or condition that is raising your cholesterol levels. You will probably need a diet that is very low in saturated fat and cholesterol. In addition, you need to be physically active, lose weight if you are overweight, and not smoke.



If in your doctor’s judgment, your LDL level starts out too far above the LDL goal of 100 mg/dL, or if your LDL level stays too high after lifestyle changes, you may need to take medicine (see page D9). For many individuals, it is necessary to combine medication with lifestyle changes to get enough of a reduction in LDL cholesterol. Your doctor can help to decide which combination of cholesterol-lowering activities is right for you.

Being Overweight

Overweight women are much more likely to develop heart-related problems, even if they have no other risk factors. According to a long-term study of nearly 116,000 women, almost 40 percent of coronary heart disease was attributed to being overweight. For the heaviest women, 72 percent of coronary heart disease could be traced to excess weight. The study also showed that even a modest weight gain of 11 to 17 pounds after age 18 significantly increases a woman’s risk of coronary heart disease.

Being overweight also contributes to cardiovascular disease, in part by increasing the chance of developing other risk factors, such as high blood pressure, high blood cholesterol and diabetes. However, it appears that obesity is harmful even in the absence of these conditions. Fortunately, these conditions often can be controlled by maintaining a healthy weight and by getting regular physical activity.

What is a healthy weight for you? Currently, there is no exact answer. Researchers are trying to develop better ways to measure healthy weight. In the meantime, check the table below to find out if your weight is within the range suggested for people of your height. Weights above the suggested "healthy weight" ranges are thought to be unhealthy for most people.

Healthy Weight Chart for Women by Frame Size			
Height	Small	Medium	Large
4' 10"	102-111	109-121	118-131
4' 11"	103-113	111-123	120-134
5'	104-115	113-126	122-137
5' 1"	106-118	115-129	125-140
5' 2"	108-121	116-132	128-143
5' 3"	111-124	121-135	131-147
5' 4"	114-127	124-138	134-151
5' 5"	117-130	127-141	137-155
5' 6"	120-133	130-144	140-159
5' 7"	123-136	133-147	143-163
5' 8"	126-139	136-150	143-167
5' 9"	129-142	139-153	149-170
5' 10"	132-145	142-156	152-173
5' 11"	135-148	145-159	155-176
6'	138-151	148-162	158-179

Those who are currently overweight should take special care not to gain additional pounds, since the more overweight a person is, the higher the chances of developing heart disease.



Research also suggests that body shape as well as weight affects heart health. "Apple-shaped" individuals with extra fat at the waistline may have a higher risk than "pear-shaped" people with heavy hips and thighs. If your waist is as large as the size of your hips, or larger, you may have a higher risk for coronary heart disease.

Physical Inactivity

Physical inactivity increases the risk of heart disease. It both contributes directly to heart-related problems and increases the chances of developing other risk factors, such as high blood pressure and diabetes. Recent reports from the U.S. Surgeon General's Office and a National Institutes of Health expert panel warn that physical inactivity is increasing among Americans – especially among women.

According to the first-ever *Surgeon General's Report of Physical Activity and Health*, 60 percent of American women don't get the recommended amount of physical activity, while more than 25 percent are not active at all. In part, this sedentary behavior results from a reliance on modern conveniences, such as automobiles, elevators and escalators, which make life easier but do little to strengthen or tone the body. But even during leisure hours, many women continue to be physically inactive.

This inactivity can have serious results later in life. Besides increasing the risk of heart disease, it makes older women who are not physically active more likely to fall than those who are physically active. And, especially for those with bone loss, falls can lead to fractures and have serious, even life-threatening, consequences. Fortunately, it doesn't take a lot of effort to become physically active. Both the Surgeon General's report and the report of the NIH Consensus Development Conference on Physical Activity and Cardiovascular Health conclude that as little as 30 minutes of moderate activity on most, and preferably all, days helps protect heart health. Examples of moderate activity are a brisk walk, raking leaves, or gardening.

If you prefer, you can divide the 30-minute activity into shorter periods of at least 10 minutes each. If you already do this level of activity, you can get benefits by doing even more. To find out more about physical activity and how to get started, see the section on "Becoming Physically Active" that starts on page

Diabetes

Diabetes is a serious disorder that raises the risk of coronary heart disease and stroke. About 75 percent of people who have diabetes die of some type of cardiovascular disease. Compared with non-diabetic women, diabetic women are more apt to have high blood pressure and high blood cholesterol. Untreated diabetes also can contribute to the development of kidney disease, blindness, problems in pregnancy and childbirth, nerve and blood vessel damage, and difficulties in fighting infection.

The type of diabetes that develops in adulthood is usually referenced as Type 2 or "noninsulin-dependent diabetes mellitus," or NI DDM. This type of diabetes, when the pancreas makes insulin but the body is unable to effectively use it, is the most common form of the disease. For unknown reasons, the risks of heart disease and heart-related death are higher for diabetic women than for diabetic men. While there is not cure for diabetes, there are steps one can take to control it. About 80 percent of all NI DDM diabetics are overweight. It appears that being overweight and growing older promote the development of diabetes in certain people. Losing weight and increasing physical activity may help



postpone or prevent the disease. For lasting weight loss, engage in regular, brisk physical activity and eat a diet that is limited in calories and fat.

OTHER FACTORS

Stress

In recent years, we have read and heard much about the connection between stress and coronary heart disease. Many studies do report such a connection for both women and men. For example, the most commonly reported incident preceding a heart attack is an emotionally upsetting event, particularly one that involves anger. There also is evidence that people who become easily emotionally upset are more likely to develop hardening of the arteries. In addition, some common ways of coping with stress, such as overeating, heavy drinking and smoking, are clearly bad for your heart. The good news is that sensible health habits can have a protective effect. Regular physical activity not only relieves stress but can directly lower your risk of heart disease. Recent research also shows being involved in a stress management program after a heart attack decreases the chances of further heart-related problems.

Strong personal ties may also play an important role in heart-disease management and prevention. Studies show that having emotionally supportive relationships lessens the chances of developing heart disease and prolongs life in both women and men after a heart attack. Religious beliefs and activity also have been linked to longer survival among heart surgery patients. While these findings are promising, researchers will need to study larger groups of women over time to find out more about the links among certain behaviors, stress and coronary heart disease in women.

Birth-Control Pills

Studies show that women who use high-dose birth-control pills (oral contraceptives) are more likely to have a heart attack or a stroke because blood clots are more likely to form in the blood vessels. These risks are lessened once the birth-control pill is stopped. Using birth-control pills also may worsen the effects of other risk factors, such as smoking, high blood pressure, diabetes, high blood cholesterol and being overweight.

Much of this information comes from studies of birth-control pills containing higher doses of hormones than those commonly used today. The risks of using low-dose birth-control pills are not fully known. Therefore, if you are now taking any kind of birth-control pill or are considering using one, keep these guidelines in mind:

- *Smoking and "the pill" don't mix.* If you smoke cigarettes, stop smoking or choose a different form of birth control. Cigarette smoking boosts the risk of serious cardiovascular problems from birth-control pill use, especially the risk of blood clots. This risk increases with age and with the amount smoked. For women older than 35, the risk is particularly high.
- *Pay attention to diabetes.* Glucose metabolism, or blood sugar, sometimes changes dramatically in women who take birth-control pills. Any woman who is diabetic, or has a close relative who is, should have regular bloodsugar tests if she takes birth control pills.
- *Watch your blood pressure.* After starting to take birth-control pills, your blood pressure may go up. For most women, this increase does not go above normal. But if your blood pressure increases to 140/90



mmHg or higher, ask your doctor about changing pills or switching to another form of birth control. Once off birth-control pills, your blood pressure should return to normal within a few months.

- Talk with your doctor. If you have a heart defect, if you have suffered a stroke, or if you have any other kind of cardiovascular disease, oral contraceptives may not be a safe choice. Be sure your doctor knows about your condition before prescribing birth-control pills for you.

Alcohol

Over the last several years, a number of studies have reported that moderate drinkers – those who have one or two drinks per day – are less likely to develop heart disease than people who don't drink any alcohol or who drink too much. Small amounts of alcohol may help protect against heart disease by raising levels of "good" HDL cholesterol.

If you are a nondrinker, this is not a recommendation to start using alcohol. And certainly if you are pregnant, or have another health condition that could make alcohol use harmful, you should not drink. But if you're already a moderate drinker, evidence suggests that you may be at a lower risk for heart attack. This is particularly true for women after menopause.

But remember, moderation is the key. Heavy drinking causes heart-related problems. More than three drinks per day can raise blood pressure, and binge drinking can contribute to stroke. Too much alcohol also may damage the heart muscle, leading to heart failure. Overall, people who drink heavily on a regular basis have higher rates of heart disease than either moderate drinkers or nondrinkers.

Women who drink should have no more than one alcoholic beverage a day (see box below)

What Is Moderate Drinking?

For women, moderate drinking is defined as no more than one drink per day, according to the U.S. Dietary Guidelines for Americans.

Count as one drink:

12 ounces of regular beer (150 calories)

5 ounces of wine (100 calories)

1 1/2 ounces of 80-proof hard liquor (100 calories)

Keep in mind too, that alcohol provides no nutrients — only extra calories. Most alcoholic drinks contain 100 to 200 calories each. Women who are trying to control their weight may want to cut down on alcohol and substitute calorie-free iced tea, mineral water or seltzer with a squeeze of lemon or lime.

Homocysteine

Homocysteine (pronounced homo-SI S-teen) is an amino acid that is found normally in the body. Recent studies suggest that high blood levels of this substance may increase a person's chances of developing heart disease, stroke, and reduced blood flow to the hands and feet. While it is not known for sure how homocysteine contributes to heart and vessel disease, it is thought that high levels of homocysteine may damage the arteries, make the blood more likely to clot, and/or make blood vessels less flexible.

Individuals vary in their levels of homocysteine. For a few people, genetic factors contribute to high amounts of this substance in the blood. In addition, homocysteine levels may increase with age. For women, homocysteine levels may be higher after menopause than during childbearing years.



Recent research also shows that the level of homocysteine in the blood is affected by the consumption of three vitamins – folic acid and vitamins B6 and B12. People who consume less than the recommended daily amounts of these vitamins are more likely to have higher homocysteine levels. Recommended daily amounts are 400 micrograms for folic acid, two milligrams for B6, and six micrograms for B12.

It has not yet been proven that lowering homocysteine levels will actually help prevent heart or blood-vessel disease. But until more research is done, people may help protect their health by getting enough folic acid, B6 and B12 in their diets. Good sources of folic acid include citrus fruits, tomatoes, vegetables, whole and fortified grain products, beans, and lentils. Since 1998, the U.S. Food and Drug Administration has required that certain foods contain extra folic acid to help prevent certain birth defects. These foods include enriched breads and rolls, all enriched flours, corn meals, all enriched pasta products, and breakfast cereals.

Foods high in B6 include meat, poultry, fish, fruits, vegetables and grain products. Major sources of B12 are meat, poultry, fish, and milk and other dairy products. (For more on vitamins, see "The Vitamin Factor," page G16)

WOMEN WHO HAVE HEART DISEASE

If you have heart disease, it is extremely important to take steps to control your condition. This section explains the symptoms of heart disease, tests you may need, warning signs of a heart attack, and how to get emergency care.

Symptoms of Heart Disease

The first noticeable symptom of coronary heart disease may be angina, which is a periodic pain or discomfort in the chest that is caused by reduced blood flow to the heart. This pain usually occurs behind the breastbone and may travel down your left arm or up your neck, or be a squeezing, pressing sensation that does not change with breathing.

It is typically caused and worsened by exercise and eased by rest. The pain usually lasts two to five minutes. Some women get a less typical angina. The chest pain may last longer, occur in a location other than behind the breastbone, or not be worsened by physical activity and eased by rest. Some women have shortness of breath or indigestion. If you have any of these symptoms, you should contact your doctor. With treatment, the outlook is good. Without treatment, however, the symptoms may recur and worsen, and even lead to a heart attack.

Diagnostic Tests

In most cases, you will need to have some tests to find out for sure whether you have coronary heart disease, and also to find out how severe your condition is. If your doctor does not mention tests, be sure to ask him or her whether tests could be helpful. (See "You and Your Doctor: A Healthy Partnership," page F3.) To get complete information about your condition, you may need more than one test. Most of them are done outside the body and are painless. The most common tests are:

- **An electrocardiogram**, called an ECG or EKG, makes a graph of the electrical activity of the heart as it beats. This test can show abnormal heartbeats, heart- muscle damage, blood-flow problems in the coronary arteries, and heart enlargement.



- **A stress test**, also called a treadmill test or exercise ECG, records the heart's electrical activity during exercise, usually on a treadmill or exercise bicycle. Some older women may not be able to exercise due to arthritis or another condition. In such cases, a stress test can be done without exercise by using a medicine that increases blood flow to the heart muscle and shows if there are any problems in that flow.
- **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.
- **A nuclear scan** 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 then records how much is taken up by the heart muscle.
- **Coronary angiography**, also called an angiogram or arteriography, shows an X-ray of blood-flow problems and blockages in the coronary arteries. A thin, flexible tube, or catheter, is threaded through an artery of an arm or leg up into the heart. A fluid 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.

You and Your Doctor: A Healthy Partnership

If you have coronary heart disease, it is especially important to take an active role in your health care. That means giving as much information as you can about your condition to your physician, as well as making sure you understand all treatment decisions and procedures. Here are some tips to help ensure good, clear communication between you and your doctor:

-Be prepared. Before your office visit, make a list of your symptoms, past treatments, and any concerns or questions you may have. Also, bring a list of all medicines you are now taking.

~Be open. During the office visit, briefly describe each of your symptoms, including when each started, how often it happens, and if it has been getting worse. Also tell your doctor about any causes of stress in your life, such as taking care of a sick family member, or a difficult job situation.

-Ask questions. If you don't understand something your doctor says, ask for an explanation. Be sure you fully understand how to take any medication — when to take it; how much to take; what to do if you forget a dose; what other medicine, food, or activity to avoid while taking it; and what side effects may occur. It may help to write down your doctor's instructions.

~Bring a support person. If you are worried about understanding what the doctor says, or if you have trouble hearing, bring a friend or relative with you to the physician's office. You may want to ask that person to write down the doctor's instructions for you.

~Speak up. If something bothers you, say so. Your doctor needs to know if a treatment is working or not, or if you are having trouble following his or her instructions. In some cases, simply getting more information from your physician may solve a problem. In other cases, your doctor may be able to recommend a different treatment or approach that works better for you.

- **Ask about tests.** If your physician recommends a diagnostic test, ask why you need it and what you will find out from it. Also ask what the test involves and how to get ready for it, and whether you will need help getting home afterward. Also, be sure to find out if the test has any risks or side effects. Remember that your doctor only recommends a test. The decision to take it is yours.



- **Inquire about procedures.** If your doctor recommends a special procedure, ask about its benefits and risks. Find out what kind of doctor will do the procedure and whether you will need a referral. Also ask if you will need to be hospitalized and for how long, what kind of pain or discomfort you may feel, and what the recovery period will involve. Just as with tests, the decision to have any medical procedure is up to you.

Heart-Disease Medications

A healthy lifestyle will improve your heart's condition. But you may need medication too, especially if you have chest pain, or if you have high blood pressure or high blood cholesterol that was not lowered enough with lifestyle changes. This list will introduce you to some of the medications used to treat heart disease and its risk factors:

- *Aspirin* – helps prevent heart attacks when taken regularly in a low dose on a doctor's orders.
- *Digitalis* – makes the heart contract harder and is used when the heart's pumping function has been weakened; it also slows some fast heart rhythms.
- *Angiotensin converting enzyme (ACE) inhibitor* – stops production of a chemical that makes blood vessels narrow and is used for high blood pressure and heart muscle that has been damaged.
- *Beta-blocker* – reduces how hard the heart must work and is used for high blood pressure, chest pain, and to prevent a repeat heart attack.
- *Nitrate* (including nitroglycerine) – relaxes blood vessels and alleviates chest pain.
- *Calcium-channel blocker (CCB)* – relaxes blood vessels; used for high blood pressure and chest pain (see page D5 or a special note on CCBs).
- *Diuretic* – decreases fluid in the body and is used for high blood pressure.
- *Blood cholesterol-lowering agents* – HMG CoA reductase inhibitors (or statins), nicotinic acid, bile acid sequestrants, fibric acid derivatives, and probucol (see page D9 for more information on cholesterol lowering medicines).

Warning Signs of a Heart Attack

If you have heart disease, you should know the symptoms of a heart attack so that you can get immediate medical help. Not all heart attacks begin with sudden, crushing chest pain, the way they are often shown in the movies and on TV. Instead, the most common warning signals are:

- pain or discomfort in the center of the chest that lasts more than a few minutes, or goes away and comes back
- pain that spreads from the chest to the arm, neck or jaw
- chest discomfort with sweating, shortness of breath, tiredness or upset stomach (these last three symptoms are particularly common in women)

Heart attack symptoms may be severe from the start, or they may be mild at first, then gradually worsen. Talk with your doctor about other symptoms of a heart attack and steps you should take.

Immediate Self Help



If you experience heart attack symptoms and are taking nitroglycerin medication, take one nitroglycerin tablet as soon as you feel discomfort, a second tablet if the discomfort does not go away in five minutes, and a third tablet after five more minutes if you are still experiencing symptoms.

In addition, you should chew one adult-strength (325 mg) uncoated aspirin. Whether or not you have been prescribed nitroglycerin, you should take one aspirin. If the symptoms stop, call your doctor immediately for further advice. If symptoms continue, dial 911.

Getting Emergency Care — A Must

If the above medications do not relieve your discomfort within 15 minutes, get to the hospital fast. Be sure you know the phone number to call for emergency transportation. This is the best way to get to the hospital if you could be having a heart attack. In many areas, the emergency number will be 9-1-1; in other areas, it will be a seven-digit emergency number. (For more on what to do in case of a heart attack, see "Steps for Survival" below).

Medical science now offers treatments that can stop heart attacks in their tracks if the treatments are given very quickly after the attack begins. These new treatments include clot-dissolving drugs or coronary angioplasty (also called balloon angioplasty) to reopen the clogged blood vessel that has cut off the oxygen supply to the heart. These treatments save lives and reduce damage to the heart muscle – but only if they are given immediately.

New research shows that clot-dissolving medicine also can be used to treat a stroke, but once again, it must be used quickly to be effective. That means if you have stroke symptoms, you should get emergency help immediately. Warning signs for stroke include weakness or numbness in the face, hand, leg or foot; sudden blurred vision; difficulty speaking; and sudden dizziness or loss of coordination.

Steps For Survival — What To Do if You Might Be Having a Heart Attack

Nobody plans to have a heart attack. But just as many people have a plan to follow in case of fire, it is a good idea to have a plan to deal with a possible heart attack. Knowing what to do can save your life. Fill out this form and make several copies of it. Keep one copy near a phone at home, another at work, and a third copy in your purse.



What To Do Ahead of Time

1. Discuss heart-attack symptoms and what you plan to do in case of a heart attack with your doctor, family, coworkers and friends. Tell others how they can help you if you have symptoms (for example, help you with your medication or call 911 for you).

2. Make a list of all your medications and how often you take each one. This list would be valuable information to the emergency department doctor or nurse.

Medication _____ How much/how often? _____

Medication _____ How much/how often? _____

Medication _____ How much/how often? _____

Medication _____ How much/how often? _____

3. Know the location of the nearest 24-hour emergency department.

• At home, the closest emergency department is _____

• At work, the closest emergency department is _____

4. Know who should be notified in case of an emergency.

Notify _____ at _____

these phone numbers:

Home _____

Office _____

What To Do if You Have Heart Attack Symptoms

You may feel: chest pain or discomfort, left arm pain, pain radiating to your neck or jaw, sweating, shortness of breath, upset stomach, tiredness.

Take medication right away.

- Chew one adult-strength (325 mg) tablet of uncoated aspirin.
• If you have been prescribed nitroglycerin, place one tablet under your tongue immediately. Take a second tablet if the discomfort does not go away in five minutes. Take a third tablet after five more minutes if the discomfort still hasn't gone away.
?? Call for emergency transportation if symptoms continue for more than 15 minutes.
?? If the symptoms do stop, call your doctor.
?? Keep emergency phone numbers handy at home and on your person when you are away from home.

?? Doctor's phone number: _____
• At home, the emergency phone number is _____
• At work, the emergency phone number is _____



PREVENTION - A PERSONAL PROJECT

Preventing or controlling heart disease, by and large, means making changes in the way we live. For each individual, a healthy heart requires a personal action plan. But where does one begin? A complete medical checkup is a sensible first step, especially if you have multiple risk factors. Your doctor or other health professional can tell if you have cardiovascular disease or its risk factors, and if so, work out a practical treatment plan. Even if you don't have any risk factors now, you can discuss ways to lessen your chances of developing them.

Good communication with your health professional is very important. Choose someone you trust who will listen to your questions, answer them fully, and take your concerns seriously. While advice from a health professional is important, the final responsibility for heart health lies with each woman. Only you can make the kinds of lifestyle changes – changes in eating, drinking, smoking and physical activity – that will help protect against or control cardiovascular diseases. Remember, even if you have heart disease, you can help your heart become stronger and healthier.

To learn about the organizations and educational materials available to help you, see "Resources for a Healthy Heart" on page G45. In the meantime, keep reading. The self-help suggestions that follow can help you get started on a personal program for a healthy heart.

Self-Help Strategies for a Healthy Heart To Do! The Healthy Heart Action Plan

- Quit smoking.
- Cut back on foods high in fat, saturated fat and cholesterol, and eat more fruits and vegetables.
- Check blood pressure and blood cholesterol levels.
- Be more physically active.
- Lose weight if you are overweight.

Kicking the Smoking Habit

There is nothing easy about giving up cigarettes. But as hard as quitting may be, the results are well worth it. One year after you stop smoking, your risk of coronary heart disease will drop by more than half. Within several years, it will approach the heart-disease risk of someone who has never smoked. This means that no matter what your age, quitting will lessen your chances of developing coronary heart disease.

Meanwhile, for those who now have heart disease, giving up cigarettes lowers the risk of a heart attack. Quitting also reduces the risk of a second heart attack in women who have already had one. Quitting will also save you money. Over 10 years, a two-pack-a-day smoker can spend more than \$10,000 on cigarettes. And that price tag doesn't take into account the extra costs of smoking-related illness, such as doctor's bills, medicines and lost wages.

Take some time to think about other benefits of being an ex-smoker. In addition to reducing your chances of heart attack and stroke, quitting will lessen your chances of developing lung cancer, emphysema and



other lung diseases; result in fewer colds or flu attacks each year; and give you more energy to pursue the physical activities you enjoy. If you have children living at home, they are likely to have fewer coughs, colds and earaches once you stop smoking.

Take a few minutes now to write down all of the reasons you want to quit. Understanding what you and your family have to gain from quitting is an important first step in kicking the smoking habit.

Getting Ready to Quit

Once you decide to stop smoking, a few preparations are in order. Set a target date for quitting – perhaps the first day of a month. Don't choose a time when you know you will be under a lot of stress. To help you stick to your quit date, you might want to write a brief contract that states your intention to quit, your quitting date, and some ways you plan to reward yourself for becoming an ex-smoker. Have someone sign it with you.

Consider asking your contract cosigner – or another friend or family member – to give you special support in your efforts to quit. Plan to get in touch with your supporter regularly to share your progress and to ask for encouragement. Give your "cheerleader" a copy of your list of reasons so that he or she can remind you of your goals. If possible, quit with a spouse or friend.

A Weighty Concern

Many women fear that if they stop smoking they will gain unwanted weight. But most ex-smokers gain less than 10 pounds. Weight gain may be partly due to changes in the way the body uses calories after smoking stops. Also, some people eat more when quitting because they substitute high-calorie food for cigarettes. Choosing more lower-calorie foods and increasing your level of physical activity can reduce the amount of weight you gain.

If you do gain some weight, you can work on losing it after you have become comfortable as a nonsmoker. When you think about the enormous health risks of smoking, the possibility of putting on a few pounds is not a reason to continue.

Three Aids for Quitting

As you prepare to quit smoking, give serious consideration to using a nicotine aid to help you stay off cigarettes. Three products – nicotine gum, a nicotine patch and a nicotine nasal spray – can help you successfully quit by lessening your withdrawal symptoms. The gum and patch are now available over the counter, while the nasal spray is available only by prescription.

However, nicotine aids are not for everyone. Pregnant women, nursing mothers and people with serious heart problems cannot use them safely. Talk with your doctor about whether you should try any of these aids.

Breaking the Habit

- *Surviving "Day One."* On the evening before your quit day, clean house. Throw away all cigarettes, matches and lighters, and give away your ashtrays. Plan some special activities for the next day to keep you busy, such as a long walk or an outing with a friend. Ask family members and friends not to offer you cigarettes or to smoke in front of you. Your goal is to get through that first important day smoke-free.



If you succeed on the first day, it will help give you the confidence to succeed on the second – and on each day after that.

- *Know yourself.* To quit successfully, you need to know your personal smoking triggers. These are situations and feelings that typically bring on the urge to light up. Some common triggers include drinking coffee, finishing a good meal, watching television, having an alcoholic drink, talking on the phone, or watching someone else smoke. Stress can also be a trigger. Make a list of the situations and feelings that particularly tempt you to smoke. Especially during the first weeks after quitting, try to avoid as many triggers as you can.
- *Find new habits.* Replace triggers with new activities that you don't associate with smoking. For example, if you always had a cigarette with a cup of coffee, switch to tea for a while. If you always smoked at the table after dinner, get up as soon as the meal is over and go out for a walk. If you're feeling tense or angry, try a relaxation exercise such as deep breathing to calm your self. (Take a slow, deep breath, count to five, and release it. Repeat 10 times.)
- *Keep busy.* Get involved in projects that require you to use your hands, such as needlework and jigsaw puzzles. When you feel the urge to put something in your mouth, have low-calorie substitutes on hand, such as vegetable sticks, apple slices or sugarless gum. Some people find it helpful to inhale on a straw or chew on a toothpick until the urge passes.
- *Be physically active.* Walk, garden or bicycle. Physical activity will make you feel better and help prevent weight gain.
- *Know what to expect.* During the first few weeks after quitting, you may experience some temporary withdrawal symptoms, such as headaches, irritability, tiredness, constipation and trouble concentrating. These symptoms may come and go, and be stronger or weaker on different days. While these feelings are not pleasant, it is important to know that they are signs that your body is recovering from smoking. Most symptoms end within two to four weeks.
- *Help is available.* A number of free or low-cost programs are available to help you stop smoking. They include programs offered by local chapters of the American Lung Association and the American Cancer Society. Other low-cost programs can be found through hospitals, health maintenance organizations, workplaces and community groups. Some programs offer special support groups for women.
- *Be good to yourself.* Get plenty of rest, drink lots of fluids and eat three balanced, healthy meals per day. If you are not as productive or cheerful as usual during the first several weeks after quitting, don't feel guilty. Give yourself a chance to adjust to your new nonsmoking lifestyle. Ask your friends and family to give you lots of praise for kicking the habit – and don't forget to pat yourself on the back. You are making a major change in your life, and you deserve a lot of credit.

If You Slip

A slip means that you have had a small setback and smoked a cigarette after your quit date. Most smokers slip three to five times before they quit for good. But to get right back on the nonsmoking track, here are some tips:

- *Don't get discouraged.* Having a cigarette or two doesn't mean you can't quit smoking. A slip happens to many, many people who successfully quit. Keep thinking of yourself as a nonsmoker. You are one.



- *Learn from experience.* What was the trigger that made you light up? Were you driving home from work, having a glass of wine at a party, feeling angry with your boss? Think back on the day's events until you remember what the specific trigger was.
- *Take charge.* Make a list of things you will do the next time you are in that particular situation – and other tempting situations as well. Sign a new contract with your support person to show yourself how determined you are to kick the habit. Reread your list of all the reasons you want to quit.

Becoming Physically Active

Regular physical activity can help you reduce your risk of coronary heart disease. Staying active helps take off extra pounds, helps to prevent and control high blood pressure, boosts the level of "good" HDL cholesterol, and helps to prevent diabetes. Some studies show that inactive people are more likely to have heart attacks.

For those who have heart disease, regular, moderate physical activity lowers the risk of death from heart-related causes. However, if you have heart disease, check with your doctor first to find out what kinds of activities are best for you. Physical activity has many other benefits. It strengthens the lungs, tones the muscles, keeps the joints in good condition, improves balance, and helps many people cope better with stress and anxiety.

Older women, in particular, can benefit from physical activities that strengthen bones and promote coordination and balance. Exercises such as tai chi can improve balance and may be done alternately with heart-healthy physical activities. The National Institute of Aging has a list of physical activities that are particularly helpful for older individuals. The good news is that to reap benefits from physical activity, you don't need to train for a marathon. You need only engage in about 30 minutes per day of moderate-level activity on most – and preferably all – days. (See box on "Healthy Moves," page .)

Some examples of everyday activities that can improve heart health are brisk walking, bicycling, housecleaning, raking leaves and gardening. You can engage in any of these activities for 30 minutes at one time, or you can do them in shorter periods of at least 10 minutes each, as long as you total approximately 30 minutes per day.

It is important to know that the people likely to reap the most health benefits are those who are just starting to become physically active. If you have not been physically active until now, gradually build up to approximately 30 minutes per day of moderate-level activity.

If you are already engaging in this recommended level of physical activity, you may receive extra health and fitness benefits from doing these activities for a longer period each day, or by becoming involved in more vigorous activity. Some people should get medical advice before starting a program of physical activity. For example, if you have heart trouble or have had a heart attack, if you are older than 50 and are not used to moderately energetic activity, or if you have a family history of developing heart disease at an early age, check with your doctor before you start.

Once you get started, keep these guidelines in mind:

- *Go slowly.* Before each activity session, allow a five-minute period of stretching and slow movement to give your muscles a chance to warm up. At the end of your activity, take another five minutes to cool down with a slower, less energetic pace.



- *Listen to your body.* A certain amount of stiffness is normal at first. But if you hurt a joint or pull a muscle or tendon, stop the activity for several days to avoid more serious injury. Most minor muscle and joint problems can be healed by rest and over-the-counter painkillers.
- *Pay attention to warning signs.* While physical activity can strengthen your heart, some types of activity may worsen existing heart problems. Warning signs include sudden dizziness, cold sweat, paleness, fainting, or pain or pressure in your upper body just after engaging in physical activity. If you notice any of these signs, call your doctor immediately.
- *Keep at it.* Unless you have to stop your program of physical activity for a health reason, stay with it. If you feel like giving up because you think you're not going as fast or as far as you should, then set smaller, short-term goals for yourself as well as grander ones. If you find yourself becoming bored, try engaging in an activity with a friend, or switch to another activity. The health rewards of regular, moderate-level physical activity are well worth the effort. The following sample is presented as a "Walking Program Checklist" in Appendix A, on page _____.

A Sample Walking Program - {At least three exercise sessions during each week of the program.}

	Warm Up	Activity Cool	Down	Total Time
Week 1	Walk slowly 5 min.	Then walk briskly 5 min.	Then walk slowly 5 min.	15 min./Total
Week 2	Walk slowly 5 min.	Walk briskly 7 min.	Walk slowly 5 min.	17 min./Total
Week 3	Walk slowly 5 min.	Walk briskly 9 min.	Walk slowly 5 min.	19 min. /Total
Week 4	Walk slowly 5 min.	Walk briskly 11 min.	Walk slowly 5 min.	21 min./Total
Week 5	Walk slowly 5 min.	Walk briskly 13 min.	Walk slowly 5 min.	23 min./Total
Week 6	Walk slowly 5 min.	Walk briskly 15 min.	Walk slowly 5 min.	25 min./Total
Week 7	Walk slowly 5 min.	Walk briskly 18 min.	Walk slowly 5 min.	28 min./Total
Week 8	Walk slowly 5 min.	Walk briskly 20 min.	Walk slowly 5 min.	30 min./Total
Week 9	Walk slowly 5 min.	Walk briskly 23 min.	Walk slowly 5 min.	33 min./Total
Week 10	Walk slowly 5 min.	Walk briskly 26 min.	Walk slowly 5 min.	36 min./Total
Week 11	Walk slowly 5 min.	Walk briskly 28 min.	Walk slowly 5 min.	38 min./Total
Week 12	Walk slowly 5 min.	Walk briskly 30 min.	Walk slowly 5 min.	40 min./Total



Healthy Moves

Here are some examples of moderate physical activities and chores that you can do to reduce your risk of heart disease:

- walking, brisk pace (three to four miles per hour)
- conditioning or general calisthenics
- housework
- racket sports, such as table tennis
- mowing lawn (power mower)
- golf (pulling cart or carrying clubs)
- home repair and maintenance
- jogging
- swimming, moderate effort
- cycling, moderate speed (10 miles per hour or less)
- gardening
- canoeing, leisurely pace (two to 3.9 miles per hour)
- dancing

Source: Adapted from *Dietary Guidelines for Americans*, U. S. Department of Agriculture/U.S. Department of Health and Human Services, 1995.

Eating for Health

The health of your heart has a lot to do with the food you eat. Following the "Dietary Guidelines for Americans" lessens your risk of heart disease in three ways:

- It helps reduce high blood cholesterol levels.
- It helps control high blood pressure.
- It helps take off extra pounds.

As a bonus, the kinds of eating habits that are good for your heart may also help prevent cancer and a number of other health problems.



The Healthy Diet: Back to Basics

Each day, choose different foods that you enjoy eating from these food groups:

Food Group/Daily Servings

What Counts as a Serving*

Breads, cereals, rice and pasta

Six to 11 servings

- 1 slice bread
- 1/2 bun or bagel
- 1 ounce dry cereal
- 1/2 cup cooked cereal, rice, pasta

Vegetables

Three to five servings

- 1 cup raw leafy greens
- 1/2 cup other vegetables
- ?? 3/4 cup vegetable juice

Fruits

Two to four servings

- 1 medium apple, banana, orange
- 1/2 cup fruit – fresh, cooked, canned
- 3/4 cup fruit juice

Milk, yogurt and cheese

Two to three servings

- 1 cup milk (skim or low-fat)
- 8 ounces low-fat yogurt
- 1 1/2 ounces low-fat natural cheese
- 2 ounces low-fat processed cheese

Meat, poultry, fish, dry beans and peas,

Two to three servings

- this totals 6 ounces of cooked lean meat, eggs, nuts, and seeds poultry, or fish per day
- count 1/2 cup cooked dry beans, or 2 Tbsp. peanut butter, or 1/3 cup of nuts as 1 ounce meat

Fats, oils and sweets

- use sparingly

Source: Dietary Guidelines for Americans, U.S. Department of Agriculture/U.S. Department of Health and Human Services, 1955.

* These serving sizes may differ from those on the Nutritional Facts labels on packaged food.



Dietary Guidelines (if you are accustomed to a Western Diet)

Use these seven guidelines together as you choose a healthful and enjoyable diet.

- Eat a variety of foods.
- Balance the food you eat with physical activity – maintain or improve your weight.
- Choose a diet with plenty of grain products, vegetables and fruits.
- Choose a diet low in fat, saturated fat and cholesterol.
- Choose a diet moderate in sugars.
- Choose a diet moderate in salt and sodium.
- If you drink alcoholic beverages, do so in moderation.

Lowering Blood Cholesterol

Reducing your blood cholesterol level can greatly lessen your chances of developing heart disease. For those who have heart disease, lowering blood cholesterol is even more important. If you have angina or have had a heart attack, keeping your blood cholesterol low will help lessen your risk of having a future heart attack and may well prolong your life.

In general, each one percent reduction in blood cholesterol produces a two percent reduction in the risk of a heart attack. This means that if you lower your blood cholesterol by 25 percent, you may cut your risk of heart attack in half. For most people, blood cholesterol levels can be lowered by being physically active, maintaining a healthy weight, and by eating less saturated fat, total fat and cholesterol. Use the guide to choosing low-saturated fat, low-cholesterol foods on page G27. However, the diet that will work best for you depends on your current health status. Here are some specific guidelines for heart-healthy eating as recommended for healthy Americans who do not have a cholesterol problem that needs a doctor's attention:

- Less than 7 percent of the day's total calories from saturated fat.
- Thirty-five percent or less of the day's calories from fat.
- Less than 200 milligrams of dietary cholesterol per day.

If you have high blood cholesterol, your doctor will first prescribe a diet similar to the one above, but have you take special care to limit calories from saturated fat to 7 percent of the day's calories. If you follow this Step I eating pattern for about three months and your blood cholesterol does not drop enough, you may need to cut back still more on saturated fat and cholesterol and follow a Step II eating pattern.

If you have heart disease, you will need to adopt an eating pattern that is especially low in saturated fat and cholesterol. Specifically, you should follow the Step II diet:

- Less than 7 percent of the day's total calories from saturated fat.
- Thirty percent or less of the day's total calories from fat.
- Less than 200 milligrams of dietary cholesterol a day.



When starting the Step II diet, you should get help from a registered dietitian or other qualified nutritionist.

Fat Finding

Now, let's get practical. Which fats are found in which foods?

Saturated fat is found mainly in food that comes from animals. Whole-milk dairy products such as butter, cheese, milk, cream and ice cream all contain high amounts of saturated fat. The fat in meat and poultry skin is also loaded with saturated fat. A few vegetable fats – coconut oil, cocoa butter, palm kernel oil and palm oil – are also high in saturated fat. These fats are sometimes found in cookies, crackers, coffee creamers, whipped toppings and snack foods. Because fats are invisible in many foods, it is very important to read food labels.

Remember: Saturated fat

boosts your blood cholesterol level more than anything else in your diet. Eating less saturated fat is the best way to lower your blood cholesterol level.

Figuring Out Fat

Your personal "fat allowance" depends on how many calories you take in each day. If you do not have a cholesterol problem and have no heart disease, the saturated fat in your diet should be less than 7 percent of daily calories, and total fat should be no more than 35 percent.

The chart below shows the upper limit on total fat and saturated fat grams you should eat, depending on how many calories you consume each day. If you have high blood cholesterol or heart disease, the amounts below will be less.

Check food product labels to find out the number of fat grams (saturated and total) in each serving.

Total Calories Per Day Saturated Fat in Grams Total Fat in Grams

1,600 18 or less 53 or less

2000 22 or less 67 or less

2,400 27 or less 80 or less

Unsaturated fat does not raise blood cholesterol levels, but like all fats it has nine calories a gram. One type is polyunsaturated fat, which is found in many cooking and salad oils, such as safflower, corn, soybean, cottonseed, sesame and sunflower oils, and in some margarines. Another type is monounsaturated fat, which is found in olive, canola and peanut oils.

Cholesterol is found only in foods that come from animals. Egg yolks and organ meats (liver, for example) are very high in cholesterol. Meat and poultry have similar amounts of cholesterol. Eating less cholesterol will help lower blood cholesterol levels in most people.

Now You're Cooking

Planning and cooking meals aimed at reducing blood cholesterol do not have to be complicated. Here are some suggestions:

- Choose fish, poultry and lean cuts of meat, and remove fats from meats and skin from chicken before eating.

Eat up to six ounces per day.



- Broil, bake, roast or poach foods rather than fry them.
- Cut down on sausage, bacon and processed high-fat cold cuts.
- Limit organ meats such as liver, kidney or brains.
- Instead of whole milk or cream, drink skim or 1 percent milk. Try nonfat or low-fat yogurt in place of sour cream. Use nonfat or low-fat cheeses. Sherbet and nonfat or low-fat frozen yogurt can be delicious replacements for ice cream.
- Instead of butter, use liquid or tub margarine or liquid vegetable oils high in poly- or monosaturated fats. All fats and oils should be used sparingly.
- Eat egg yolks only in moderation. Egg whites contain no fat or cholesterol and can be eaten often. In most recipes, substitute two egg whites for one whole egg.
- Eat plenty of fruits and vegetables, as well as cereals, breads, rice and pasta made from whole grains (for example, rye bread, whole wheat spaghetti, bran cereal). These foods are good sources of starch and fiber, and usually contain no cholesterol and little or no saturated fat.
- Liquid vegetable oils are a good choice for sautéing vegetables, browning potatoes, popping corn, and for making baked goods, pancakes and waffles. Use small amounts, or try using a vegetable-oil cooking spray.

Healthy Snacking

Many snacks, including many types of cookies, cheese crackers and chips, are high in saturated fat, cholesterol and calories. Eat them occasionally, if at all. This doesn't mean, however, that you can't enjoy between-meal treats.

Keep the following low-fat food on hand for snack attacks:

- frozen grapes or banana slices; other fresh fruits
- bagels and bread sticks*
- unsweetened, ready-to-eat cereals*
- fruit leather or other dried fruit
- no-oil baked tortilla chips*
- fat-free or low-fat cookies such as animal crackers, fig and other fruit bars, ginger snaps, and vanilla or lemon wafers
- fat-free or low-fat crackers* such as melba toast and rice, rye and soda crackers
- frozen low-fat or nonfat yogurt and fruit ices
- fat-free pretzels* or air-popped popcorn*

Keep in mind that while these treats may be low in fat, many are not low in calories. So watch how much you eat, especially if you are trying to control your weight.

* If you are watching your sodium intake, be sure to look for low-sodium or unsalted types.



- Many store-bought baked goods, snacks and other prepared foods have hidden saturated fats because they are made with hydrogenated vegetable oils, or palm kernel or coconut oil. They may also contain lard, butter or cream. Get in the habit of reading product labels, and choose products that are lowest in fat and saturated fat. New baked goods have been developed that contain no cholesterol and very little fat. But keep in mind that they may still be high in calories.

For more meal ideas, see "Recipes for a Healthy Heart" and "Meal Planning: A Change of Heart" in Appendix A at the back of this book.

What About Potassium?

Research shows that eating a lot of fruits and vegetables and nonfat or low-fat dairy products can lower blood pressure. Such foods supply plenty of potassium, magnesium, fiber and calcium. Potassium, in particular, seems to prevent high blood pressure. Most women can get enough potassium in foods. Good sources of potassium are many fruits and vegetables, some dairy foods, and fish.

Eating Smart Away From Home

Following a heart-healthy diet is a bit more challenging when you're away from home, but there are many ways to eat right when eating out. Choose restaurants that have low-fat, low-cholesterol menu choices, and ask that gravy, butter and rich sauces be served on the side. If the restaurant offers a salad bar, load up on vegetables and limit foods such as eggs, bacon and cheese. Go easy on the salad dressing, and choose low-calorie types when they are offered. Even at fast-food restaurants, you can make healthy choices. Choose grilled (not fried or breaded) chicken sandwiches, regular-sized hamburgers, or roast-beef sandwiches.

When ordering pizza, ask for vegetable toppings such as green pepper, onions and mushrooms instead of meat toppings and extra cheese.

Preventing and Controlling High Blood Pressure

More than half of American women will develop high blood pressure at some point in their lives. Women who have the highest risk include those who are African-American, have a family history of high blood pressure, are overweight, or have "high-normal" blood pressure (130-139 over 85-89 mmHg). Blood pressure tends to get higher as you age – but it doesn't have to. By taking preventive steps, a healthy blood pressure can be maintained throughout life.

The Vitamin Factor – Will a Supplement a Day Protect Your Heart?

You may have read in the news that vitamins – particularly the antioxidant vitamins E and beta carotene – may protect against heart disease and stroke. The theory is that antioxidants possibly prevent the biochemical process that converts LDL cholesterol into a form that can stick to and clog arteries. The word "possibly" is important here. So far, evidence for the heart-health benefits of antioxidants is mixed. While some studies have shown a protective effect, others have shown no benefit at all. Currently, the National Heart, Lung, and Blood Institute is supporting two large studies on the effects of antioxidants on women's heart disease, which will soon give us more-definite information on the impact of these vitamins.



Until the research results become available, we cannot be sure if consuming a lot of vitamin E or beta carotene supplements is helpful or harmful. Also unknown is whether the vitamins give benefits when taken as supplements or whether they must be consumed through foods. However, since many foods rich in these vitamins are good for you in any case, it makes sense to add them to your diet. Good sources of beta carotene are carrots, squash, yams, peaches, apricots, spinach and broccoli. Foods rich in vitamin E include vegetable oils (especially safflower and sunflower oils), wheat germ and leafy green vegetables.

Hold the Salt

How To Reduce Salt and Sodium in Your Diet

You can help prevent and control high blood pressure by cutting down on table salt and on sodium, an ingredient in salt that is found in many packaged foods. Here are some tips:

- Add less salt at the table and in cooking. If possible, reduce the amount a little each day until none is used. Try seasoning foods instead with pepper, garlic, ginger, minced onion or green pepper, and lemon juice.
- Use fewer sauces, mixes, and instant products, including flavored rice, pasta and cereals, since they usually have salt added.
- Use fresh, frozen or canned fruits.
- Use vegetables that are fresh, frozen without sauce, or canned with no salt added.
- Check nutrition labels for the amount of sodium in foods, especially on cans, boxes, bottles and bags. Look for products that say "sodium free," "very low sodium," "low sodium," "reduced sodium," "less sodium," "light in sodium" or "unsalted."

The Sensible Snack

To help cut back on sodium, snack on:

- bagels, raisin toast or English muffins with jelly and a little margarine
- air-popped popcorn with no salt or butter
- unsalted pretzels and crackers
- low-fat cookies (animal crackers, fig bars, ginger snaps)
- vegetables (fresh, plain frozen or no-salt-added canned)
- fruits
- fruit juices and drinks
- nonfat frozen yogurt, sherbet and Popsicles
- hard candy, jelly beans

Eat less of:

- salted popcorn with butter • french fries
- salted chips, pretzels and crackers • pork rinds



Especially if you have heart disease, controlling high blood pressure will improve your health. For example, women who have had a heart attack are less likely to have another one if they take steps to reduce high blood pressure.

To prevent high blood pressure – or to help control blood pressure if it is now too high – take these steps:

- Lose weight if you are overweight.
- If you drink alcohol, have no more than one drink per day. That means no more than 12 ounces of beer, 5 ounces of wine, or 1 1/2 ounces of hard liquor.
- Try to engage in 30 minutes of moderate physical activity on most or all days of the week. Physical activity also helps weight control and is good for your entire cardiovascular system.
- Use salt and sodium in small amounts, if at all.
- If your doctor prescribes medication, be sure to take it exactly as directed. High blood pressure medicine must be taken in the right amounts and at the right times in order to work properly.

Losing Weight: Four Ways To Win

If you are overweight, taking off pounds can lower the chances of developing cardiovascular diseases in several ways. First, since being overweight raises the risk of heart disease, losing weight will directly lower your risk.

Secondly, weight loss will also help control diabetes. Third and fourth, shedding pounds can lower both high blood pressure and cholesterol. In fact, for some people, weight loss, along with other dietary changes, may be the only treatment needed. But even if medication is required for one of the above conditions, the healthier your weight, the less medication you may need.

If you are overweight, at the very least you should not gain any additional weight. The more overweight you are, the higher the chance that you will develop heart disease. In a society so concerned about thinness, it may be hard to listen to yet more advice about the need to take off pounds. But too often, women are pressured to lose too much weight and for the wrong reasons: to look better in trendy clothes, to attract male attention, to have today's super-slim athletic look. The aim here is not to promote the false and discouraging idea that "thin is beautiful," but to show the link between reasonable weight and good health – especially the health of your heart. Weight loss is advised only to reach a healthy weight, not to drop to an extreme level.

Taking off pounds, and especially keeping them off, can be quite a challenge. Here are some suggestions for making weight loss an easier, safer and more successful process:

- *Eat for health.* Choose a wide variety of low-calorie, nutritious foods in moderate amounts from the basic food groups. Include pasta, rice, bread and other whole-grain foods, fruits and vegetables – and other foods low in fat, since fat is the richest source of calories. But keep in mind that while more low-saturated-fat food products are now available, many of them are still loaded with sugar and are therefore high in calories. To make every calorie count, cut down on snack foods that are high in calories but provide few other nutrients.



- *Make a plan.* If you have a lot of weight to lose, ask your doctor, a registered dietitian, or a qualified nutritionist to help you develop a sensible, well-balanced plan for gradual weight loss. To lose weight you will need to take in fewer calories than you burn. That means that you must either choose food with fewer calories or become more physically active – and preferably, do both.
- *Take it slowly.* The safest course is to take off weight gradually – no more than a half pound to one pound per week. Don't think of weight control as a quick fix, but as a healthful, lifelong habit.

Move It and Lose It

Activity Calories Burned Per Hour*

Bicycling, 6 mph	240
Bicycling, 12 mph	410
Cross-country skiing	700
Jogging, 5.5 mph	740
Jogging, 7 mph	920
Running in place	650
Swimming, 25 yds/min.	275
Swimming, 50 yds/min.	500
Tennis, singles	400
Walking, 2 mph	240
Walking, 3 mph	320
Walking, 4.5 mph	440

* For a healthy 150-pound woman. A lighter person burns fewer calories, a heavier person burns more. Source: Exercise and Your Heart, National Heart, Lung and Blood Institute, 1993.

- *Keep milk on the menu.* Don't cut out dairy products when trying to reduce calories and fat. Dairy products are rich in calcium, a nutrient that is particularly important for women. Instead, choose non- or low-fat dairy products.

For instance, if you are used to drinking whole milk, gradually cut back to 2 percent milk, move to 1 percent, and then to skim milk. This way the calories are reduced while the amount of calcium remains the same.

There are other ways to keep up your calcium. Try canned fish with soft bones, such as salmon and sardines, dark green leafy vegetables, broccoli, tofu processed with calcium sulfate, and tortillas made with lime-processed corn.

- *Beyond dieting.* To keep the pounds off, change your basic eating habits rather than simply "go on a diet." Keep a food diary of what, when and why you eat to help you understand your eating patterns and what affects them.

Learn to recognize social and emotional situations that trigger overeating, and figure out ways to cope with them. Set short-term goals at first.

- *Ask for support.* Tell your family and friends about your weight loss plans and let them know how they can be most helpful to you. You might also want to join a self-help group devoted to weight control. These groups provide support and practical suggestions on changing eating habits and achieving long-term weight loss.



- *Forget the fads.* Tempting as their promises are, fad diets are not the answer. Most provide poor nutrition and cause many side effects, especially those with fewer than 800 calories a day. Although fad diets can give quick and dramatic results, most of the weight loss is due to water loss. The weight returns quickly once you stop dieting.
- *Get a move on.* Physical activity can help burn calories, tone muscles and control appetite. (It also gives you something to do when you feel that familiar urge for a slice of chocolate fudge cake.) Even moderate activity, such as brisk walking, will burn up calories and help control weight.

Other Prevention Issues

Hormones and Menopause

Should menopausal women use hormone replacement therapy? There is no simple answer to this question. Menopause is caused by a decrease in estrogen produced by a woman's ovaries. It happens naturally in most women between the ages of 45 and 55, and it also occurs in women of any age whose ovaries are removed by an operation. As estrogen levels begin to drop, some women develop uncomfortable symptoms such as hot flashes and mood changes. Hormone replacement therapy, or HRT – a term for prescription hormone medications – can be used to relieve these symptoms. Some women are prescribed medication that contains only estrogen. Others take estrogen combined with a second hormone called progesterin, a synthetic form of progesterone.

Together with your doctor, you must decide whether the benefits of hormone replacement therapy are worth the risks.

Did You Know?

Many women think that breast cancer is a bigger threat than heart disease. But the leading causes of death for American women in 1994 were:

Heart disease	371,000	Cervical Cancer	5,000
Stroke	93,000	Uterine Cancer	6,000
Cancer (all types)	254,000	Chronic obstructive Lung Cancer	59,000
pulmonary disease	48,000	Breast Cancer	44,000
Pneumonia/influenza	44,000	Ovarian Cancer	14,000
		Cervical Cancer	5,000
		Uterine Cancer	6,000

Aspirin

The research on aspirin is promising. This well-known "wonder drug" may help to both prevent and treat heart attacks. A study of more than 87,000 women found that those who took a low dose of aspirin regularly were less likely to suffer a first heart attack than women who took no aspirin. Women older than 50 appeared to benefit most. While earlier research has shown that aspirin can help prevent heart attacks in men, this was the first study to suggest a similar result for women. Other recent research suggests that only a tiny daily dose of aspirin may be needed to protect against heart attacks. One study found that for both women and men, taking only 30 mg of aspirin daily — one-tenth the strength of a regular aspirin — helped prevent heart attacks as effectively as the usual 300 mg dose. The smaller dose also caused less stomach irritation.



A major study showed that taking a low dose of aspirin within the first hours of an attack reduced deaths by 23 percent. Moreover, aspirin also reduces the chances of having a second heart attack or stroke. However, you should not take aspirin either to treat or prevent a heart attack without first discussing it with your doctor. Aspirin is a powerful drug with many side effects. It can increase your chances of getting ulcers, kidney disease, liver disease and stroke from a hemorrhage. Only a doctor who knows your complete medical history and current health can judge whether the benefits you may gain from aspirin outweigh the risks.

Research; A New Focus on Women

As you have read through this book, you may have noticed the recurring words, "more research is needed." This is true. Until very recently, men were the main subjects of heart-disease research. We now know, however, that coronary heart disease is indeed a woman's concern. We know that we need to understand more about women's heart problems if we are to prevent and treat these problems successfully. As a result, a major, government-funded research project called the Women's Health Initiative is now under way.

It includes studies on:

- The effects of hormone replacement therapy on cardiovascular diseases, uterine cancer, breast cancer and osteoporosis. Both estrogen-only treatments and estrogen-progestin combinations are being studied.
- The dosage of aspirin that can safely and effectively protect women from heart attack.
- The effect of a low-saturated-fat diet on preventing coronary heart disease in women.
- Whether commonly used programs to encourage physical activity, weight control and quitting smoking are successful for women.
- Possible links between stress, hormonal changes and coronary heart-disease risk in women.

These and other important research projects will give us new information and tools to better protect ourselves from coronary heart disease. They will also help doctors identify and treat women's heart problems more successfully. Where women's hearts are concerned, knowledge is power — the power to improve our health and enrich our lives.

The Heart of the Matter

Getting serious about heart health may seem like a huge project. Because it means making basic changes in health and living habits, for many it is a major effort. It doesn't have to be an overwhelming one. Some people find it easier to tackle only one habit at a time. If you smoke cigarettes and also eat a high-fat diet, for example, work on kicking the smoking habit first. Then, once you have gotten used to life without cigarettes, begin skimming the fat from your diet.

And remember, nobody's perfect. Nobody always eats the ideal diet or gets just the right amount of physical activity. Few smokers are able to swear off cigarettes without a slip or two along the way. The important thing is to follow a sensible, realistic plan that will gradually lessen your chances of developing heart disease, or help you to control it. Women are taking a more active role in their own health care. We are asking more questions and we are seeking more self-help solutions. We are concerned not only about treatment, but also about the prevention of a wide range of health problems. Taking steps to control and



prevent cardiovascular diseases is part of this growing movement to promote and protect personal health. The rewards of a healthy heart are well worth the effort.

Meal Planning: A Change of Heart

Higher-Fat Diet (37 Percent Fat)

Breakfast

- 1 fried egg
- 2 slices white toast w/ 1 teaspoon butter
- 1 cup orange juice

Lower-Fat Diet (30 Percent Fat)

Breakfast

- 1 cup corn flakes w/ blueberries
- 1 cup 1 percent milk
- 1 slice rye toast w/ 1 teaspoon margarine
- 1 cup orange juice
- black coffee or tea

Snack

- 1 doughnut

Snack

- 1 toasted pumpernickel bagel w/ 1 teaspoon margarine

Lunch

- 1 grilled cheese (2 ounces)

- 2 oatmeal cookies
- black coffee or tea

Lunch

- 1 tuna salad (3 ounces) sandwich on whole wheat bread
- sandwich on white bread w/ lettuce and tomato

- 1 graham cracker
- tea with lemon

Snack

- 20 cheese cracker

Snack

- squares crisp apple

Dinner

- 3 ounces fried hamburger w/ ketchup
- 1 baked potato w/ sour cream
- 3/4 cup steamed broccoli w/ 1 tps butter
- 1 cup whole milk
- 1 piece frosted marble cake

Dinner

- 3 ounces broiled lean ground beef w/ ketchup
- 1 baked potato w/ low-fat plain yogurt and chives
- 3/4 cup steamed broccoli w/ 1 tsp margarine
- 1 tossed garden salad w/ 1 tbs oil & vinegar dressing
- 1 cup 1% milk
- 1 small piece homemade gingerbread w/ maraschino cherry

Nutrient Analysis

- Calories 2,000
- Total fat (percent of calories)
- Saturated fat (percent of calories) 19
- Cholesterol 505 mg

Nutrient Analysis

- Calories 2,000
- 37 Total fat (percent of calories) 30
- Saturated fat (percent of calories) 10
- Cholesterol 186 mg



A Guide to Choosing Low-Fat, Low-Cholesterol Foods

Variety is the spice of life. Choose foods every day from each of the food groups. Choose different foods from within groups, especially foods low in saturated fat and cholesterol (the "Choose" column). As a guide, the recommended daily number of servings for adults is listed for each food group. But you'll have to decide on the number of servings you need to lose or maintain your weight. If you need help, ask a dietitian or your doctor.

Sources: *Dietary Guidelines for Americans*, U. S. Department of Health and Human Services, 1995; Second Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol In Adults, NHLBI, 1993.

Breads, Cereals, Pasta, Rice

(Six to 11 servings daily, serving size is 1 slice bread, half a bun or bagel, 1 ounce dry cereal, 1/2 cup cooked cereal, rice or pasta.)

Choose

- breads, such as whole wheat, pumpernickel, rye and white; sandwich buns; dinner rolls; rice cakes
- low-fat crackers, such as: matzo, pita, bagels, English muffins, bread sticks, rye, saltines, zwieback
- hot cereals, most cold dry cereals
- pasta, such as plain noodles, spaghetti, macaroni
- any grain rice

Go Easy On

- store-bought pancakes, waffles, biscuits, muffins, cornbread

Decrease

- croissants, butter rolls, sweet rolls, Danish pastry, doughnuts
- most snack crackers, such as cheese crackers, butter crackers, those made with saturated fats
- granola-type cereals made with saturated fats
- pasta and rice prepared with cream, butter or cheese sauces; egg noodles

Vegetables

(Three to five servings daily; serving is 1 cup leafy raw, 1/2 cup cooked or chopped raw, 3/4 cup juice.)

Choose

- fresh, frozen, canned or dried vegetables

Decrease

- vegetables prepared in butter, cream or sauce
- french fries



Fruits

(Two to four servings daily; serving is 1 piece, 1/2 cup diced, 3/4 cup fruit juice or cocktail.)

Choose

- fresh, frozen, canned or dried fruits

Go Easy On

- avocados and olives

Milk, Yogurt and Cheese

(Two to three servings daily; three servings for women who are pregnant or breast feeding, as well as teenagers and young adults to age 24; serving size is 1 cup milk or yogurt; 1 ounce natural cheese; 1 1/2 ounce processed cheese.)

Choose

- skim milk, 1% milk, skim buttermilk, low-fat evaporated or nonfat milk
- nonfat or low-fat yogurt and frozen yogurt
- low-fat and fat-free cheeses, string cheese, fat-free cottage and ricotta cheese
- nonfat sour cream

Go Easy On

- 2% milk
- part-skim ricotta and part-skim or imitation hard cheese, such as part-skim mozzarella
- "light" cream cheese
- "light" sour cream

Decrease

- whole milk, including regular, evaporated, condensed
- cream, half-and-half, most nondairy creamers and products, real or nondairy whipped cream
- cream cheese, sour cream, ice cream, custard-style yogurt
- whole milk ricotta
- high-fat cheese, such as Neufchâtel, brie, Swiss, American, mozzarella, feta, cheddar, Muenster

Meat, Poultry, Fish, Dry Beans, Eggs and Nuts

(Two to three servings daily.)

Lean Meat, Poultry, Fish

(Serving is 2-3 ounces of cooked lean meat, poultry, or fish.)

Choose

- ~ **tofu**
- ~ **soybean product - alternatives**



- lean cuts of meat with fat trimmed, such as: beef – round, sirloin, top loin, extra-lean ground beef; lamb – leg-shank; pork – tenderloin, leg shank, sirloin, top loin; veal – shoulder, ground, cutlet, sirloin
- poultry without skin
- fish, most shellfish

Go Easy On

- lean ground beef, flank steak
- shrimp, abalone, squid

Decrease

- fatty cuts of meat, such as: beef – brisket, regular ground, short ribs, chuck roast; lamb – rib, chops; pork – spareribs, blade roll or roast
- goose, domestic duck
- organ meats, such as liver, kidney, brain
- sausage, bacon, frankfurters, regular luncheon meats
- caviar, roe

Dry Beans and Peas

(Serving is 1/2 cup tofu or cooked dry peas or beans; 1/2 cup cooked dry beans or 2 Tbsp of peanut butter or 1/2 cup nuts counts as 1 ounce of lean meat.)

Choose

- dried peas and beans, such as split peas, black-eyed peas, chick peas, kidney beans, navy beans, lentils, soybeans, soybean curd (tofu)

Go Easy On

- refried beans (read food label for fat content)

Eggs

(No more than four egg yolks a week.)

Choose

- egg whites
- cholesterol-free egg substitutes

Decrease

- egg yolks
- whole eggs



Nuts

Most nuts are an excellent source of protein, and for many vegetarians, particularly vegans, are often a primary protein source. Generally speaking, nuts are high in both protein and fat, dietary fiber, and sometimes Vitamins A, B and C, as well as calcium and iron. Although anyone using a diet rich in nuts should be wary of total fat content, nuts are virtually cholesterol free.

Dry-roasted soy beans (sometimes called soy “nuts”) are also very high in nutritional value.

Nutrients in 100 g of nuts

Nutrients	Units	Almonds	Brazil nuts	Cashews	Hazelnuts	Macadamia	Pecans	Pinenuts	Pistachios	Walnuts
Calories	kcal	578	656	574	628	718	691	629	557	654
Proteins	g	21	14	15	15	8	9	12	21	15
Fats	g	51	66	46	61	72	72	61	44	65
Carbohydrates	g	20	13	33	17	14	14	19	28	14
Fiber	g	12	5	3	10	9	10	11	10	7
Calcium	mg	248	176	45	114	85	70	8	107	98
Iron	mg	4	3	6	5	4	3	3	4	3
Magnesium	mg	275	225	260	163	130	121	234	121	158
Phosphorus	mg	474	600	490	290	188	277	35	490	346
Potassium	mg	728	600	565	680	368	410	628	1025	441
Sodium	mg	1	2	16	0	5	0	72	1	2
Zinc	mg	3	5	6	2	1	5	4	2	3
Copper	mg	1	2	2	2	1	1	1	1	2
Vitamin C	mg	0	1	0	6	1	1	2	5	1
Thiamin	mg	0.2	1	0.2	0.6	1.2	0.7	1.2	0.9	0.3
Riboflavin	mg	0.8	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1
Niacin	mg	4	2	1	2	2.5	1	4	1	2
Vitamin E	mg	26	8	1	15	1	4	NA	5	3
Vitamin A	RE	1	0	0	4	0	8	3	55	4
Vitamin A	IU	10	0	0	40	0	77	29	553	41
Vitamin B12	mcg	0	0	0	0	0	0	0	0	0
Folate	mcg	29	4	69	113	11	22	58	51	98
Vitamin B6	mg	0.1	0.3	0.3	0.6	0.3	0.2	0.1	1.7	0.5

Ref: USDA Nutrient Database

g = gram mg = milligram mcg = microgram IU = International Units RE = Retinol Equivalent NA = non available



Fats and Oils

(Use sparingly.)

Choose

- unsaturated vegetable oils such as corn, olive, peanut, rapeseed (canola oil), safflower, sesame, soybean
- margarine or shortening made with unsaturated fats listed above: diet and tub
- low-fat and fat-free mayonnaise, low-fat and fat-free salad dressings made with unsaturated fats listed above.

Decrease

- butter, coconut oil, palm kernel oil, palm oil, lard, bacon fat
- stick margarine or shortening made with saturated fats listed above
- dressings made with egg yolk, such as hollandaise sauce and Caesar salad dressing
- regular salad dressing and mayonnaise

Sweets and Snacks

(Use sparingly, and remember, fat-free and low-fat choices may be high in calories.)

Choose

- nonfat and low-fat frozen desserts, such as sherbet, sorbet, Italian ice, frozen yogurt, Popsicles
- fat-free cakes and cookies
- low-fat cakes, such as angel food cake
- low-fat cookies, such as fig bars, gingersnaps
- low-fat candy, such as jelly beans, hard candy
- low-fat snacks, such as plain popcorn, pretzels, graham crackers
- nonfat beverages, such as carbonated drinks, juices, tea, coffee

Go Easy On

- frozen desserts, such as ice milk
- homemade cakes, cookies and pies using unsaturated oils sparingly
- fruit crisps and cobblers
- potato and corn chips prepared with unsaturated vegetable oil

Decrease

- high-fat frozen desserts, such as ice cream, frozen tofu
- high-fat cakes, such as most store-bought, pound and frosted cakes



- regular pies and cookies
- most candy, such as chocolate bars
- potato and corn chips prepared with saturated fat
- buttered popcorn
- high-fat beverages, such as frappes, milkshakes, floats, eggnogs

Label Ingredients

(Choose foods lower in fat, saturated fat, or cholesterol; go easy on products that list first any fat, oil, or ingredients higher in saturated fat or cholesterol. Choose more often those products that contain ingredients lower in saturated fat or cholesterol.)

Choose

- ingredients lower in saturated fat or cholesterol: carob; cocoa; oils, such as corn, cottonseed, olive, safflower, sesame, soybean, or sunflower; nonfat dry milk; nonfat dry milk solids; skim milk

Decrease

- **sources of saturated fat and cholesterol: animal fat, bacon fat, beef fat, butter, chicken fat, cocoa** butter, coconut, coconut oil, cream, egg and egg-yolk solids, ham fat, hardened fat or oil, hydrogenated vegetable oil, lamb fat, lard, meat fat, palm kernel oil, palm oil, pork fat, turkey fat, coconut, vegetable shortening, whole-milk solids



Resources for a Healthy Heart

National Heart, Lung, and Blood Institute (NHLBI)
Information Center

P.O. Box 30105

Bethesda, MD 20824-0105

(800) 575-WELL; (301) 251-1222

Web site: <http://www.nhlbi.nih.gov/nhlbi/nhlbi.htm>

Call the toll-free number for information about the prevention and control of high blood pressure and high blood

cholesterol. Write for a list of free or low-cost publications on all aspects of heart health.

Women and Heart Disease

An Atlas of Racial and Ethnic Disparities in Mortality

Second Edition

This publication is the product of a collaboration between the following organizations.

Office for Social Environment and Health Research

West Virginia University & National Center for Chronic Disease Prevention and Health Promotion

Centers for Disease Control and Prevention

It can be downloaded from: <http://www.cdc.gov/cvh/womensatlas/atlas.htm>

National Institute on Aging (NIA)

Information Center

P.O. Box 8057

Gaithersburg, MD 20898-8057

(800) 222-2225

(800) 222-4225 (TTY for hearing impaired)

Web site: <http://www.nih.gov/nia>

Provides information on a wide range of topics related to health and aging, including physical activities for older persons.

Consumer Information Center (CIC)

CIC has free or low-cost consumer booklets from more than 40 federal departments and agencies, including the U.S.

Department of Agriculture and the U.S. Food and Drug Administration. Topics include the Dietary Guidelines for Americans, food labels, and other health issues. For a catalog, write to:

Catalog

Consumer Information Center

Pueblo, CO 81009

Or call (719) 948-4000

The catalog and many of the publications also are available on the Internet:

Web site: <http://www.pueblo.gsa.gov>



On the gopher at gopher.gsa.gov
National Cancer Institute (NCI)
Office of Cancer Communications
Bldg. 31, Room 10A24
9000 Rockville Pike
Bethesda, MD 20892
(800) 4-CANCER; (301) 496-5583
Web site: <http://www.nci.nih.gov/>

Provides free publications on how to stop smoking, and many other cancer-related topics.

American Heart Association (AHA)
National Center
7320 Greenville Avenue
Dallas, TX 75231
(800) AHA-USA1
Web site: <http://www.amhrt.org/>

Contact the national office or your local AHA affiliate for a list of publications on heart health. Single copies of most publications are free.



Walking Program Chart [At least three exercise sessions during each week of the program.]

	<u>Warm Up</u>	<u>Activity</u>	<u>Cool Down</u>	<u>Total Time</u>
Week 1	Walk slowly 5 min.	Then walk briskly 5 min.	Then walk slowly 5 min.	15 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 2	Walk slowly 5 min.	Walk briskly 7 min.	Walk slowly 5 min.	17 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 3	Walk slowly 5 min.	Walk briskly 9 min.	Walk slowly 5 min.	19 min. /Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 4	Walk slowly 5 min.	Walk briskly 11 min.	Walk slowly 5 min.	21 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 5	Walk slowly 5 min.	Walk briskly 13 min.	Walk slowly 5 min.	23 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 6	Walk slowly 5 min.	Walk briskly 15 min.	Walk slowly 5 min.	25 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 7	Walk slowly 5 min.	Walk briskly 18 min.	Walk slowly 5 min.	28 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 8	Walk slowly 5 min.	Walk briskly 20 min.	Walk slowly 5 min.	30 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 9	Walk slowly 5 min.	Walk briskly 23 min.	Walk slowly 5 min.	33 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 10	Walk slowly 5 min.	Walk briskly 26 min.	Walk slowly 5 min.	36 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 11	Walk slowly 5 min.	Walk briskly 28 min.	Walk slowly 5 min.	38 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				
Week 12	Walk slowly 5 min.	Walk briskly 30 min.	Walk slowly 5 min.	40 min./Total
Date: _____ <input type="checkbox"/> Session 1 <input type="checkbox"/> Session 2 <input type="checkbox"/> Session 3 <input type="checkbox"/> Optional Session 4				



Heart Health Record

Use this chart to record your progress toward your healthy-heart goals.

Smoking

Quit Date _____

Cholesterol

Goals

Total _____

HDL _____

LDL _____

Total HDL LDL

Date _____ Level _____

Date _____ Level _____

Blood Pressure

Goal _____

Date _____ Blood Pressure _____

Date _____ Blood Pressure _____

Date _____ Blood Pressure _____

Weight

Goal _____

Date _____ Weight _____

Date _____ Weight _____

Date _____ Weight _____

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