

Heart Disease

We used to think of heart disease as a man's problem. Now we know that it is the number one killer of women, just as it is of men. Yet women are more likely than men to be both underdiagnosed and undertreated. Fortunately, you have the power to impact your heart health in many ways! Commit to a healthy lifestyle that includes heart-healthy eating, regular physical activity, and not smoking. Understand the warning signs of a heart attack, because they can be different for women than for men. Let your doctor be your partner in helping you. And no matter how old you are, take action to protect your heart.

A woman's disease

Many women may not be aware that they are at risk of heart disease. Many doctors also make the mistake of thinking that heart disease strikes men more often than women. In fact, some research shows that doctors are more likely to diagnose and treat heart disease in a man than a woman, even if the two have the same symptoms.

Another problem is that until about 15 years ago, women were often not included in heart disease research. We assumed that the results of research involving men applied to women as well. Now we know this is not the case.

Still, we have learned a lot about heart disease in women—how to find out if you have the disease, how to treat it, and, most important, how to prevent it.



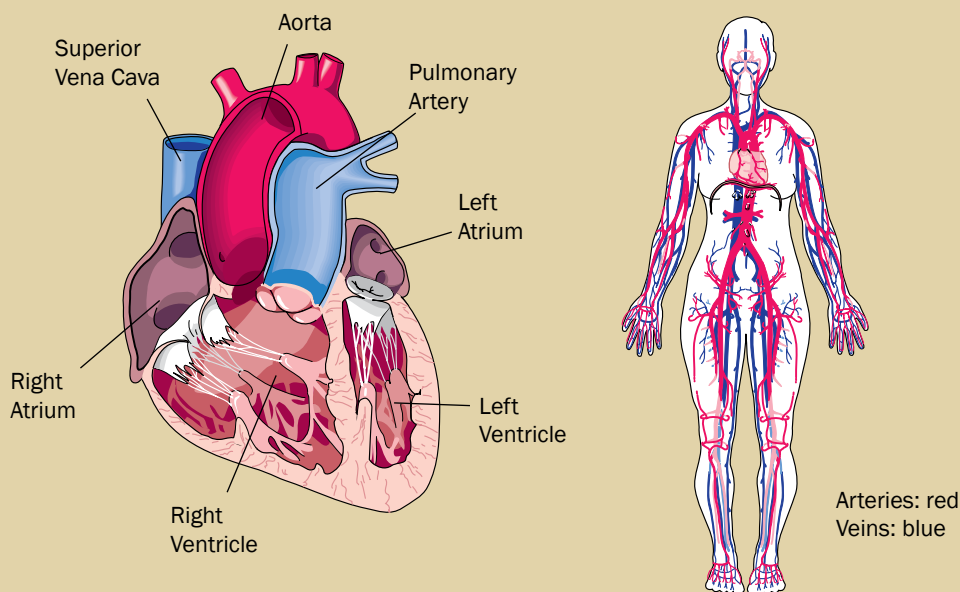
Coronary artery disease (CAD)

When people talk about heart disease, they usually mean coronary artery disease (CAD). It is the most common type of heart disease. With CAD, plaque builds up on the walls of the arteries that

How Your Heart Works

Your heart is a fist-sized muscle in the middle of your chest. An electrical system regulates its pumping action. With each heartbeat, blood is pumped through a large network of blood vessels. The blood supplies oxygen and nutrients to all the cells. It also picks up carbon dioxide and waste products from the cells. Arteries are the blood vessels that carry oxygen-rich blood away from the heart to all the parts of the body. The coronary arteries supply fresh blood to the heart itself, so it can work. Blood vessels that return blood from the body to the heart are called veins (vayns).

The heart has four chambers. The two upper chambers are called atria (AY-tree-uh). The two lower chambers are called ventricles. A system of inlet and outlet valves works to keep the blood flowing in the right direction.



carry blood to the heart. Over time, this buildup causes the arteries to narrow and harden, called atherosclerosis (a-thuh-roh-skluh-ROH-suhss). When this happens, the heart does not get all the blood it needs. This can lead to:

- **Angina** (an-JEYE-nuh)—chest pain or discomfort that happens when the heart doesn't get enough blood.
- **Heart attack**—happens when a clot mostly or completely blocks blood

flow to the heart muscle. Without blood the heart will start to die. If a person survives a heart attack, the injured area of the heart muscle is replaced by scar tissue. This weakens the pumping action of the heart.

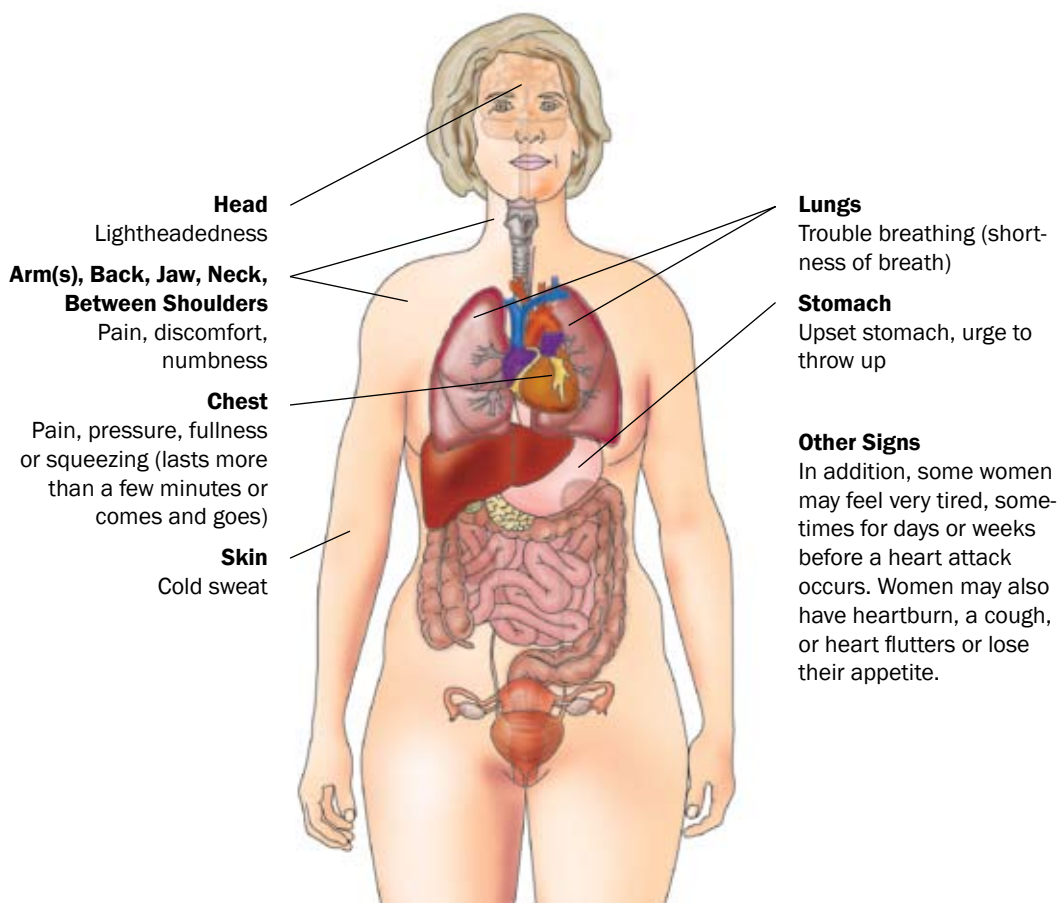
Although there are different types of heart disease, the main type discussed here is coronary artery disease.

Heart Attack: Warning Signs

Many people think a heart attack is sudden and intense, like a “movie” heart attack, where a person clutches his or her chest and falls over.

The truth is that many heart attacks start slowly, as a mild pain or discom-

fort. If you feel such a symptom, you may not be sure what’s wrong. Your symptoms may even come and go. Even those who have had a heart attack may not recognize their symptoms, because the next attack can have entirely different ones.



If you think that you are having a heart attack, you must act quickly to prevent disability or death. **Wait no more than a few minutes—5 at most—before calling 911.** Treatments for opening clogged arteries work best when given within the first hour after a heart attack starts.

Women are more likely than men to die of a heart attack. One reason is that

women often have less-common heart attack symptoms, which might be misdiagnosed by a woman or even her doctor. If you think you’re having a heart attack, don’t let anyone tell you that you’re overreacting or to wait and see. Get emergency help right away. Ask for tests that can show if you are having a heart attack. It’s better to be safe than sorry.

Who is at risk of getting heart disease?

Risk factors are conditions or habits that make you more likely to develop heart disease. The more risk factors you have, the greater your chances of getting heart disease. Some risk factors, such as your age or family history, cannot be changed. But many risk factors can be changed by making simple changes in the way you live.

Risk factors that you can change

Abnormal blood cholesterol and triglyceride levels

Cholesterol (koh-LESS-tur-ol) and triglycerides (treye-GLIH-suh-ryds) are types of fat found in your blood and other parts of the body. They are carried in the blood by lipoproteins (lip-uh-PROH-teens). Your body needs small amounts of these substances to work well. But too much can lead to plaque buildup on your artery walls. In fact, plaque is made up mostly of unused cholesterol.

A blood test will help measure your levels of:

- **Low-density lipoprotein (LDL) or “bad” cholesterol**—High levels lead to buildup of cholesterol in arteries.

Unique to Women

- Low HDL cholesterol is more dangerous than having high LDL cholesterol.
- High triglycerides combined with low HDL cholesterol can mean a very high risk of heart disease.

Risk factors that you can change (pages 18–25):

- Abnormal blood cholesterol and triglyceride levels
- High blood pressure
- Cigarette smoking
- Diabetes
- Being overweight or obese
- Metabolic syndrome
- Lack of physical activity
- Heavy alcohol use
- Sleep apnea

Risk factors that you cannot change (page 26):

- Age (55 years and older for women)
- Family history of early heart disease

Other possible risk factors (pages 26–28):

- Depression, anxiety, and stress
- Lower income
- Not enough sleep

- **High-density lipoprotein (HDL) or “good” cholesterol**—High levels are good. HDL cholesterol travels from other parts of your body to your liver, where it is processed to be removed from the body. This lowers the total cholesterol level in the body.
- **Total cholesterol**—LDL cholesterol plus HDL cholesterol
- **Triglycerides**

Ask your doctor for the results of your blood test and find out your risk in the

table below. These numbers help measure your chances of getting heart disease. Nearly half of U.S. women are at borderline high or high risk of heart disease.

Some people have a tendency toward high cholesterol. But most cases of high cholesterol and triglyceride levels are from eating unhealthy foods, not exercising, and other lifestyle choices. In many cases, adopting a heart-healthy lifestyle can lower total cholesterol, LDL cholesterol,

and triglyceride levels. In addition, moderate physical activity for at least 30 minutes on 5 or more days of the week can raise your HDL cholesterol levels. This can help reduce your heart disease risk.

If lifestyle changes do not bring your cholesterol and triglyceride levels back to normal, your doctor may prescribe one or more of these types of medicines:

- statins
- bile acid resins (REZ-ins)

Cholesterol and Triglyceride Levels and Heart Disease Risk

Cholesterol and triglyceride levels are measured in milligrams (mg) per deciliter (dL) of blood.

Total Cholesterol Level

Less than 200 mg/dL

200–239 mg/dL

240 mg/dL and above

Risk Group

Desirable

Borderline high

High

LDL Cholesterol Level

Less than 100 mg/dL

100–129 mg/dL

130–159 mg/dL

160–189 mg/dL

190 mg/dL and above

Risk Group

Optimal (ideal)

Near optimal/above optimal

Borderline high

High

Very high

HDL Cholesterol Level

Less than 40 mg/dL

60 mg/dL and above

Risk Group

High

Somewhat protective

Triglyceride Levels

Less than 150 mg/dL

150–199 mg/dL

200 mg/dL and above

Risk Group

Desirable

Borderline high

High

- fibrates
- cholesterol absorption inhibitors

Cholesterol Test: How Often?

Have your blood cholesterol and triglyceride levels tested at least once every 5 years and your blood pressure checked every 1 to 2 years.

High blood pressure (hypertension)

Blood pressure is the force your blood makes against the walls of your arteries. Your blood pressure is highest when your heart pumps blood into your arteries. This is called systolic (siss-TOL-ihk) pressure. It is lowest between beats, when the heart relaxes. This is called diastolic (deye-uh-STOL-ihk) pressure.

Your blood pressure varies throughout the day. But if your blood pressure stays above normal most of the time, then you have high blood pressure, or hypertension. If your blood pressure is borderline high, then you have prehypertension. This means that you don't have high blood pressure now but are likely to develop it in the future.

High blood pressure is called the “silent killer” because you can have no symptoms. But years of high blood pressure can damage artery walls, causing atherosclerosis and heart disease. High blood pressure is a common problem among women, especially African American women.

If you have hypertension or prehypertension, you may be able to lower your blood pressure by:

- losing weight if you are overweight or obese

- getting 30 minutes of moderate-intensity physical activity on most days of the week
- limiting alcohol to one drink per day
- quitting smoking if you smoke
- eating foods that are good for your heart
- reducing stress

If lifestyle changes do not lower your blood pressure back to normal, your doctor may prescribe medicine. Some types commonly used to treat hypertension include:

- diuretics (deye-yoo-RET-ihks)
- beta blockers
- calcium channel blockers
- angiotensin (an-jee-oh-TEN-suhn) converting enzyme (ACE) inhibitors
- angiotensin II receptor blockers (ARBs)

If you have hypertension or prehypertension, you should also know that you may be at increased risk of developing type 2 diabetes (see Diabetes section on page 21). You should get tested for type 2 dia-

Special Concerns for African American Women

African Americans often do not respond well to ACE inhibitors or ARBs when these drugs are used by themselves. But African American patients do respond well to either type of drug if it is used in combination with another medicine for treating hypertension, such as a diuretic or calcium channel blocker.

Blood Pressure Categories

	Systolic (mmHg)*	Diastolic (mmHg)*
Normal	Less than 120	Less than 80
Prehypertension	120–139	80–89
Hypertension	140 or higher	90 or higher

*mmHg means millimeters of mercury.

betes if your blood pressure readings:

- are too high
- are borderline high
- have been steadily increasing for the last several years but are still in the normal range

Cigarette smoking

The more you smoke, the higher your risk of heart disease. In fact, about half of all heart attacks in women are due to smoking. What's more, if you smoke and also take birth control pills, you are at high risk of heart disease.

If you are among the nearly 1 in 5 women in the United States who smokes, now is the time to quit. Talk to



your doctor if you need help. There are medicines that can help you quit. Counseling and support groups can also be helpful.

Diabetes

Diabetes is a disease in which blood glucose (sugar) levels are too high. Type 2 diabetes—the most common type—usually begins after the age of 40, often in people who are overweight or obese. Uncontrolled diabetes can damage artery walls, leading to atherosclerosis and heart disease. In fact, uncontrolled diabetes raises a woman's risk of heart disease more than it does for a man. Also, women with diabetes do not recover as well from a heart attack as men with diabetes do.

If you have type 2 diabetes and are overweight or obese, you might be able to lower your blood glucose levels back to normal by losing weight. If this doesn't work, your doctor might give you medicines or insulin, a hormone that lowers blood glucose levels.

For more information on type 2 diabetes, see the *Type 2 Diabetes* chapter on page 69.

Being overweight or obese

The more overweight you are, the higher your risk of heart disease—even if you have no other risk factors. Being overweight or obese also raises your chances of developing diabetes, high blood pressure, and high blood cholesterol.

Being overweight or obese is common

among women in the United States, especially among African American and Hispanic women.

How do you know if you are overweight or obese? Use the chart below to find your height and weight. The point at which the two meet is your body mass index (BMI).

	Normal weight						Overweight					Obese			
BMI	19	20	21	22	23	24	25	26	27	28	29	30	35	40	45
Height	Weight (lb.)														
4'7"	82	86	90	95	99	103	108	112	116	120	125	129	151	172	194
4'8"	85	89	94	98	103	107	112	116	120	125	129	134	156	178	201
4'9"	88	92	97	102	106	111	116	120	125	129	134	139	162	185	208
4'10"	91	96	100	105	110	115	119	124	129	134	138	143	167	191	215
4'11"	94	99	104	109	114	119	124	128	133	138	143	148	173	198	222
5'0"	97	102	107	112	118	123	128	133	138	143	148	153	179	204	230
5'1"	100	106	111	116	122	127	132	137	143	148	153	158	185	211	238
5'2"	104	109	115	120	126	131	136	142	147	153	158	164	191	218	246
5'3"	107	113	118	124	130	135	141	146	152	158	163	169	197	225	254
5'4"	110	116	122	128	134	140	145	151	157	163	169	174	204	232	262
5'5"	114	120	126	132	138	144	150	156	162	168	174	180	210	240	270
5'6"	118	124	130	136	142	148	155	161	167	173	179	186	216	247	278
5'7"	121	127	134	140	146	153	159	166	172	178	185	191	223	255	287
5'8"	125	131	138	144	151	158	164	171	177	184	190	197	230	262	295
5'9"	128	135	142	149	155	162	169	176	182	189	196	203	236	270	304
5'10"	132	139	146	153	160	167	174	181	188	195	202	207	243	278	313
5'11"	136	143	150	157	165	172	179	186	193	200	208	215	250	286	322
6'0"	140	147	154	162	169	177	184	191	199	206	213	221	258	294	331
6'1"	144	151	159	166	174	182	189	197	204	212	219	227	265	302	340
6'2"	148	155	163	171	179	186	194	202	210	218	225	233	272	311	350
6'3"	152	160	168	176	184	192	200	208	216	224	232	240	279	319	359
6'4"	156	164	172	180	189	197	205	213	221	230	238	246	287	328	369
6'5"	160	169	177	186	194	202	211	219	228	236	245	253	295	337	380
6'6"	164	173	182	190	199	208	216	225	234	242	251	260	303	346	390
6'7"	169	178	186	195	204	213	222	231	240	249	251	266	311	355	400

BMI calculators can be found at some of the Web sites listed at the end of this chapter.

Once you have found your BMI, check it against the ranges below:

Normal weight: BMI = 18.5–24.9

Overweight: BMI = 25–29.9

Obese: BMI = 30 or higher

For women, a waist size of more than 35 inches also increases heart disease risk. This is because fat located in the abdomen increases atherosclerosis more than fat located in other areas, such as the hips.

If you are overweight, obese, or your waist size is more than 35 inches, losing weight can help prevent health problems like heart disease and diabetes. Work with your doctor to create a weight-loss plan that stresses heart-healthy foods and regular physical activity.

Metabolic syndrome

Having metabolic (met-uh-BOL-ihk) syndrome doubles your risk of getting heart disease or having a stroke. You have it if you have any 3 of these 5 risk factors:

- waist measurement of more than 35 inches
- triglyceride level more than 150 mg/dL
- HDL cholesterol level less than 50 mg/dL
- systolic blood pressure greater than or equal to 130 mmHg or diastolic blood pressure greater than or equal to 85 mmHg
- blood glucose level after fasting for at least 8 hours of greater than 110 mg/dL

Taking steps to eliminate these risk factors will improve your heart and, overall, health.

Lack of physical activity

Lack of physical activity increases your heart disease risk, even if you have no other risk factors for heart disease. It also increases your chances of developing high blood pressure and diabetes and of being overweight or obese. If finding time to be physically active seems like an impossible challenge, take heart. As little as 30 minutes of moderate-intensity physical activity on most, if not all, days of the week helps protect your heart. You can even split this time into three segments of at least 10 minutes each.

Drinking alcohol

Heavy drinking causes many heart-related problems. More than 3 drinks per day can raise blood pressure and triglyceride levels. Too much alcohol also can damage the heart muscle, leading to heart failure. Overall, people who drink heavily on a regular basis have more heart problems than either moderate drinkers or nondrinkers.

However, moderate drinkers are less likely to develop heart disease than people who don't drink any alcohol or who drink too much. Red wine drinkers in particular seem to be protected to some degree against heart disease. Red wine contains flavonoids (FLAY-vuh-noidz), which are thought to prevent plaque buildup. Red grapes, berries, apples, and broccoli also contain flavonoids.

Drinking more than one drink per day increases the risks of certain cancers, including breast cancer. And if you are pregnant, planning to become pregnant, or have another health condition that could make alcohol use harmful, you should not drink.

Alcohol

If you drink alcohol, drink no more than one drink per day. One drink is counted as:

- 5 ounces of wine
- 12 ounces of beer
- 1½ ounces of 80-proof hard liquor



With the help of your doctor, decide whether moderate drinking to lower heart attack risk outweighs the possible increased risk of breast cancer or other medical problems. If you do decide to drink alcohol, remember that moderation is the key.

Sleep apnea

Has anyone ever told you that you snore? Loud snoring can be a sign of sleep apnea (AP-nee-uh), a sleep disorder that can raise your chances of having a heart attack. With obstructive sleep apnea—the most common type—the tissue in the back of the throat relaxes and blocks airflow to your lungs. This lowers the oxygen level in your blood, which makes your heart work harder and often leads to high blood pressure. Also, these repeated pauses in breathing cause fragmented sleep, which results in daytime sleepiness.

Women are more likely to develop obstructive sleep apnea after menopause.

Heart-Healthy Eating

Eating a healthy diet is a powerful way to impact your heart health. It can lower and possibly eliminate many key risk factors for heart disease, including:

- high cholesterol and triglyceride levels
- high blood pressure
- diabetes
- obesity and overweight

When striving to eat heart healthy, a special eating plan called the DASH eating plan can help guide your food choices. It also will help lower your blood pressure if it is too high. DASH stands for Dietary Approaches to Stop Hypertension. The DASH eating plan:

- stresses low-cholesterol foods that are good for your heart, such as fruits and vegetables; whole-grain breads and other foods; low-fat (1 percent) or fat-free milk and dairy products; nuts, seeds, and beans; and moderate amounts of skinless poultry and fish*
- is rich in magnesium, potassium, calcium, protein, and fiber
- is low in saturated fat, *trans* fat, and total fat
- limits red meat, sweets, and sugary drinks

*Oily fish like salmon, herring, and tuna contain omega-3 fatty acids, which have been shown to reduce your risk of dying of heart disease. Also, taking omega-3 fatty



Other things that may increase the risk of obstructive sleep apnea are:

- being overweight or obese
- smoking
- using alcohol or sleeping pills
- a family history of sleep apnea

If you think that you have sleep apnea, talk with your doctor. Your doctor might suggest a sleep test to see how severe your sleep apnea is. Mild cases often can be helped by lifestyle changes, such as losing weight and not drinking alcohol before bed. If you have severe obstructive sleep apnea or another type, your doctor may suggest other treatments, such as using a machine that props open your airway during sleep or having surgery.



A SPECIAL DEVICE HELPS PEOPLE WITH SLEEP APNEA BREATHE FREELY AND SLEEP SOUNDLY.

acids in capsule form might help women with heart disease or high triglyceride levels. If you have these problems, ask your doctor if you should take omega-3 supplements.

If you need to lower your blood pressure, eating less sodium also might help. Sodium is found in table salt and processed foods, such as canned soups, snacks, and deli meats. Many grocery stores sell salt substitutes that provide the flavor of salt without the sodium.

Another eating plan, called the Therapeutic Lifestyle Changes (TLC) eating plan, is designed for people whose LDL cholesterol levels are too high. The TLC eating plan will help to reduce your LDL cholesterol and lower your chances of developing heart disease. If you already have heart disease, it will lessen your chances of a heart attack and other heart-related problems. On the TLC eating plan, you should eat as follows:

- Less than 7 percent of the day's total calories from saturated fat. Lowering saturated fat is the most important dietary change for reducing blood cholesterol.
- Less than 200 mg of dietary cholesterol a day.
- No more than 25 to 35 percent of daily calories from total fat (includes saturated fat calories).
- Just enough calories to reach or maintain a healthy weight. (Ask your doctor or registered dietitian what is a reasonable calorie level for you.)

For more information on heart-healthy eating, see the *Nutrition* chapter on page 317.

Risk factors that you cannot change

Age

Women develop heart disease about 10 to 15 years later than men. This is because until you reach menopause, your ovaries make the hormone estrogen, which protects against plaque buildup. But once you reach menopause, your ovaries stop making estrogen and your risk of developing heart disease goes up. By age 70, women have about the same chances of developing heart disease as same-aged men.

Even apart from the increased risk brought on by menopause, getting older is a risk factor for heart disease in women. With age, arteries stiffen and thicken. Also, systolic blood pressure often goes up. These and other changes contribute to plaque buildup in artery walls.

Family history of early heart disease

Women with a father or brother who developed heart disease before age 55 are more likely to develop heart disease. Women with a mother or sister who developed heart disease before age 65 are also more likely to develop the disease. These trends suggest that you can inherit genes that increase your risk of heart disease. Still, young women with a family history appear to be less aware of

Other conditions such as chronic kidney failure can raise your risk of heart disease. Discuss your health and your risk with your doctor. This information will help your doctor decide how best to care for you.

their risks and less careful about living a heart-healthy lifestyle than men with a family history.

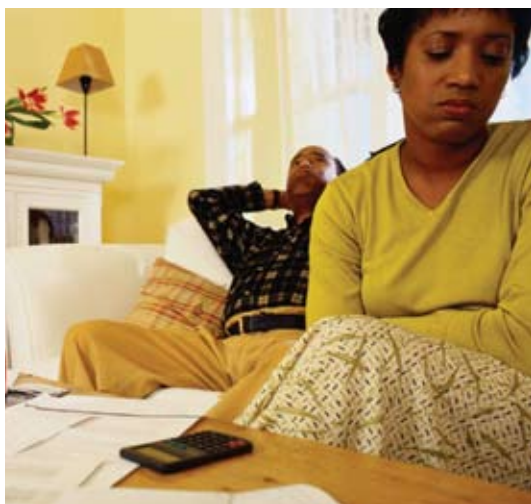
Other possible risk factors

Depression, anxiety, and stress

Negative emotions—such as depression, anxiety, and anger—have all been shown to increase your chances of developing or dying of heart disease. We don't know why this is so. Perhaps being depressed, anxious, or angry leads to behaviors that put your heart health at risk, such as smoking, drinking, and eating high-fat foods. It is also possible that negative emotions affect the body in ways that trigger atherosclerosis or blood clot formation within arteries.

Stress also appears to be linked to heart health in some way. Here are some examples:

- **Work stress.** Feelings that you have little control over what happens to you at work or that you are not being rewarded enough for the work that you do have been linked to getting heart disease.
- **Stress at home.** If you are caring for a disabled or ill spouse, the stress of this role may raise your risk of heart attack.
- **Combined stress.** Being stressed both at work and at home has been shown to increase your chances of having a heart attack or severe angina more than either type of stress by itself.
- **Low social support.** People with few friends or family to help them deal with stress are more likely to develop heart disease.



If you're unhappy with your life or feel distressed in some way, talk to your doctor. Although we don't know if treating emotional problems or reducing stress can lower your chances of getting heart disease, doing so can boost your emotional health and overall well-being.

For more information on managing stress, see the *Mental Health* chapter on page 207.

Lower income

Research shows that lower income adults have an increased risk of heart disease. Also, children born into lower income families are more likely to have heart disease in adulthood. There are many possible reasons for this link. For instance, low-income adults are less likely to be physically active and eat a heart-healthy diet, and they are more likely to smoke.

It can be difficult to eat a heart-healthy diet in lower income neighborhoods. Many of these neighborhoods lack a

grocery store that sells fresh fruits and vegetables. Or if they do, these items may be too costly. People in some of these neighborhoods have dealt with these problems by forming food co-ops that buy fresh fruits and vegetables in bulk and then sell them at low prices.

Also, it can be difficult to be physically active in neighborhoods that are unsafe. Some communities have dealt with this problem by creating physical activity programs at local recreation centers or churches. Contact your local parks department and churches to see if any such programs exist in your community.

Not enough sleep

Most adults need 7 to 9 hours of sleep to feel well rested during the day. Your heart needs a good night's sleep too. Sleeping 5 hours or less each night doubles the risk of high blood pressure for people between the ages of 32 and 59. One reason for this may be that feeling cranky, tired, and stressed due to lack of sleep makes it harder to follow a heart-



healthy lifestyle. Try these tips to get the good quality sleep your heart needs:

- Go to bed and wake up at the same time each day (even weekends).
- Engage in a relaxing activity before bed, such as reading or taking a bath.
- Make sure your bedroom is dark, quiet, and cool.
- Use your bed for sleep and sex only.
- Don't eat or become physically active for several hours before sleep.
- Avoid alcohol, caffeine, and nicotine close to bedtime.

Can menopausal hormone therapy prevent heart disease?

Some research has shown that women who start estrogen or certain types of hormone therapy around the time of menopause are less likely to get heart disease. But a very large study by the U.S. National Institutes of Health (NIH) had different results. The NIH research found that:

- Estrogen alone didn't affect the risk of a heart attack. Estrogen did increase the risk of stroke. Estrogen also increased the risk of blood clots in the legs.
- Estrogen plus progestin may have slightly increased the risk of a heart attack. Progestin is a man-made form of the female hormone progesterone (proh-JESS-tuh-rohn). Estrogen plus progestin raised the risk of stroke and blood clots in the legs and lungs.

Researchers continue to study this issue. The age at which menopausal hormone therapy is started may be the key to whether this therapy reduces your chances

of getting heart disease. Most of the women in the NIH study did not start menopausal hormone therapy until after the age of 60, yet menopause happens for most women after the age of 45. Some experts think that many of the women in the NIH study may have already developed atherosclerosis because of many years in which their estrogen levels were low. This would explain why estrogen did not protect against heart disease in the study.

More research on younger women may support the use of some kind of menopausal hormone therapy to prevent heart disease. And more research will be needed to ensure that the benefits of such a therapy outweigh its risks.

For now, the safest option for menopausal hormone therapy is to stick with the lowest dose for the shortest time to treat menopausal symptoms or prevent osteoporosis (OSS-tee-oh-puh-ROH-suhss), but not to prevent heart disease. For more information on menopausal hormone therapy, see the *Healthy Aging* chapter on page 221.

Can antioxidant or folic acid supplements prevent heart disease?

Antioxidants (an-tee-OKS-uh-duhnts), such as beta carotene and vitamins A, C, and E, and folate are substances found naturally in many foods. They can also be taken as dietary supplements, either in pill form or added to food. Some early research suggested that taking antioxidant supplements might prevent atherosclerosis. But more recent research has

not found this to be the case. The best way to get your antioxidants is by eating fruits, vegetables, whole-grain products, and nuts.

As with antioxidants, some early research suggested that taking folic acid supplements might reduce the risk of heart disease. But more recent research has not found this to be the case. Currently, the American Heart Association does not recommend that women use folic acid supplements to prevent heart disease. Even so, you need some folic acid in your diet to help your body make blood cells. Folic acid also is very important for women who are or plan to become pregnant.



Questions to Ask Your Doctor or Nurse

Getting answers to these questions will give you vital information about your heart health and what you can do to improve it. You may want to bring this list with you to your visit with your doctor or nurse.

1. What is my risk of heart disease?
2. What is my blood pressure? What does it mean for me, and what do I need to do about it?
3. What are my cholesterol numbers? (These include total cholesterol, LDL or “bad” cholesterol, HDL or “good” cholesterol, and triglycerides.) What do they mean for me, and what do I need to do about them?
4. What are my “body mass index” and waist measurement? Do they indicate that I need to lose weight for my health?
5. What is my blood glucose level, and does it mean I’m at risk of diabetes?
6. What other screening tests for heart disease do I need? How often should I return for checkups for my heart health?
7. What can you do to help me quit smoking?
8. How much physical activity do I need to help protect my heart?
9. What is a heart-healthy eating plan for me? Should I see a registered dietitian or qualified nutritionist to learn more about healthy eating?
10. How can I tell if I’m having a heart attack?

Diagnosing heart disease

If your doctor suspects that you have heart disease, there are a number of tests that she can perform to find out for sure. You may get just one test or more than one. It's normal to feel worried or anxious before having tests. Tell your doctor if your fears are keeping you from getting the tests you need.



SOME TESTS, SUCH AS ELECTROCARDIOGRAPHY AND ECHOCARDIOGRAPHY, ARE DONE WHILE EXERCISING TO SEE HOW THE HEART PERFORMS UNDER STRESS.

Electrocardiography (ih-lek-troh-kar-dee-OG-ruh-fee), or ECG or EKG	Shows how well your heart performs under the stress of physical activity using electrodes placed on the body
Perfusion imaging	A safe, radioactive substance is injected into the blood and viewed with a special camera to look for blockage in your coronary artery or damage to your heart muscle due to a heart attack
Echocardiography (ek-oh-kar-dee-OG-ruh-fee)	Sound waves create a moving picture of your heart as it beats, which can show if your heart is damaged or not getting enough blood
Coronary angiography (an-jee-OG-ruh-fee)	Detects problems in blood flow in a coronary artery using x-ray and a dye that is injected into the blood
Blood tests	Show if you've had a heart attack by detecting substances that are released into the blood when the heart muscle is damaged
Computed tomography (tuh-MOG-ruh-fee) (CT)	Uses x-ray to show plaque buildup and to detect early stages of atherosclerosis
Computed tomography angiography	Uses x-ray to produce three-dimensional pictures of the heart and its coronary arteries to detect blockages
Gated single photon (FOH-ton) emission computed tomography, or gated SPECT	A safe, radioactive substance is injected into the blood and viewed with a special camera to look for problems with blood flow to the heart, heart damage, or problems pumping blood throughout the body

Treating heart disease

If you have heart disease, it is extremely important to control it. You can help to do this by:

- eating a heart-healthy diet
- quitting smoking if you smoke
- getting regular physical activity
- losing weight if you are overweight or obese

- reducing stress
- taking medicines as directed by your doctor

For more information on healthy eating, see the *Nutrition* chapter on page 317. For more information on physical activity, see the *Fitness* chapter on page 337.

Medicines

Along with making lifestyle changes, you may need medicines to help control your heart disease. These medicines can include:

- cholesterol-lowering medicines
- beta blockers, calcium channel blockers, or ACE inhibitors to lower blood pressure and lighten the workload for the heart

At times, other medicines may be needed:

- Antiplatelet medicines stop blood cells called platelets from clumping together and forming clots.
- Anticoagulants stop clots from forming in your arteries and blocking blood flow.
- Nitrates, such as nitroglycerin (neye-truh-GLISS-ur-uhn), widen the coronary arteries, which helps lessen chest pain.
- Thrombolytic (throm-buh-LIT-ihk) agents break up blood clots that form during a heart attack. The sooner these drugs are given to someone having a heart attack, the better they are at preventing heart damage.

Special procedures or surgery

If lifestyle changes and medicines do not improve your heart disease symptoms, your doctor may suggest special procedures or surgery. These include:

- **Angioplasty** (AN-jee-uh-plass-tee). This procedure is usually done right away if coronary angiography shows problems in blood flow in a coronary artery. A thin tube with a balloon at one end is threaded into a coronary artery that has narrowed because of plaque buildup. Once in place, the balloon is inflated to push the plaque against the artery wall. This opens the artery more so that blood can flow freely.
- **Stent.** A stent is a mesh tube used to hold open a narrowed or weakened artery. It is put in place during an angioplasty. Some stents are coated with a medicine to keep arteries from narrowing or becoming blocked again. Not all people who have angioplasty need a stent.
- **Coronary artery bypass surgery.** In this procedure, a short piece of vein or artery from another part of your



Aspirin

One well-known antiplatelet medicine is aspirin. In fact, aspirin is given right away to anyone suspected of having a heart attack. Your doctor may also suggest that you take aspirin every day if you are at risk of heart disease. If you are younger than 65 years and are at low risk of heart disease, your doctor will probably not suggest that you take aspirin.

Aspirin may not be good for some women because it can cause side effects. These include bleeding in the stomach, intestines, and brain. If you're thinking about using aspirin to treat or prevent heart problems, talk with your doctor first.

body is used to reroute blood around a blockage in a coronary artery. This restores blood flow to the heart.

Other types of heart disease

Other types of heart disease that affect many women include heart failure and arrhythmias (uh-RITH-mee-uhz). These can result from coronary artery disease or other problems.

Heart failure

Heart failure happens when the heart can't pump enough blood throughout the body. Heart failure doesn't mean that your heart has stopped or is about to stop working. It means that your heart can't fill with enough blood or pump with enough force, or both.

Heart failure develops over time as the pumping action of the heart grows weaker.

It's more common in people older than 65 years. Coronary artery disease, high blood pressure, and diabetes are leading causes.

Heart failure can affect the left side, the right side, or both sides of the heart. Most cases involve the left side, in which the heart can't pump enough blood to the rest of the body. As a result, blood and fluid back up in the lungs and you feel short of breath.

When the right side of the heart is affected, blood backs up in the body, causing swelling, mainly in the lower legs and ankles. If both sides of the heart are failing, which is often the case, you also feel tired and weak because not enough blood is flowing to your muscles.

Heart failure usually can't be cured. Treatment often involves making lifestyle changes and taking medicines. If you have severe heart failure, you may need a mechanical heart pump or a heart transplant.

Arrhythmia

An arrhythmia is a problem with the speed or rhythm of the heartbeat caused by a disorder in the heart's electrical system. There are many types of arrhythmias. Most are harmless, but some can be serious or even life threatening.

The most common type of serious arrhythmia is atrial fibrillation (fib-ruh-LAY-shuhn), or AF. With AF, the walls of the atria quiver very fast (called fibrillation) instead of beating normally. As a result, blood isn't pumped into the ventricles as it should, and it pools in the atria. This can cause blood clots to form in the atria. If a clot breaks off, it might get stuck in a blood vessel and cut off blood supply to the brain. This is a type of stroke. People with AF sometimes take blood thinners to prevent clots and medicines to slow the heart rate.



Arrhythmias that start in the ventricles can be very dangerous. With ventricular fibrillations (v-fib), blood is not pumped out to the body. If the heart stops pumping entirely, the condition is known as sudden cardiac arrest. In a sudden cardiac arrest, a person will faint within seconds and die within minutes if not treated quickly.

Cardiac Arrest

A sudden cardiac arrest is not the same as a heart attack. In a heart attack, the heart usually does not suddenly stop beating. But sudden cardiac arrest may happen during recovery from a heart attack.

Living with heart disease

If you are taking medicines or have undergone special procedures or surgery to treat coronary artery disease, you still need to stick with those healthy lifestyle changes to keep plaque from clogging up your arteries again. Follow your doctor's advice on what foods to eat, how to ease back into a physical activity routine if you have had surgery, and how to reduce stress. And if you smoke, it is vital that you quit.

Taking care of your emotional health is also important. People with heart disease are often depressed, especially those who have had a heart attack. If you have heart disease and find yourself feeling depressed or "blue," talk with your doctor about ways to get help.

Treating depression may do more than just help you feel better emotionally. If you have had a heart attack, antidepressants



Sudden cardiac arrest requires immediate treatment with a defibrillator (dee-FIB-ruh-lay-tur), a device that sends an electrical shock to the heart to restore normal rhythm.

If you suspect that someone is in sudden cardiac arrest, call 911 immediately. With every minute of delay in providing defibrillation, the chances of surviving sudden cardiac arrest drop rapidly.

sants may lower your chances of having a second heart attack or dying of heart disease. So don't wait to seek help if you are feeling down.

Good news about heart health

More women are becoming aware that they are at risk of heart disease, which is the crucial first step. Even better, more women are also taking heart-healthy action.

If you haven't already joined this growing trend of heart-savvy women, now is the time to start. Urge your children and other family members to join you in your efforts to lower heart disease risk. Living heart healthy takes effort. But the rewards can mean a healthier, longer life for you and your loved ones. ■

One Woman's Story

On a Wednesday I told my doctor that my right hand had been numb for about a month. He agreed that it sounded like carpal tunnel syndrome. But he also suggested I have an electrocardiogram (ECG or EKG), which turned out to be abnormal. On hearing this, I figured it was due to rushing and not eating breakfast or lunch.

The next day I stayed home from work. I couldn't say exactly why—just that I felt extra sensitive and couldn't imagine being around a lot of people. The same thing happened on Friday. I left my laptop open at work with unfinished spreadsheets neatly displayed. I left personal letters, without stamps, waiting to be mailed. This was not at all like me.

After an errand, I could no longer dismiss the feelings of radiating pain—heartbeats of pain. My chest felt heavy. It felt like a pair of really big hands was squeezing my chest, like an elephant's enormous feet were pressing outward on my chest. When my husband came home I told him my back and chest hurt and that I needed to go to the hospital.

Blood tests at the hospital showed that I had not had a heart attack, and the cardiologist said, "You're young and a woman. I think it's probably acid reflux, and women have abnormal EKGs. Let's schedule a stress/echo test this week. Since it's the weekend, you'll feel better at home."

I didn't believe for one minute that I had acid reflux. But did I say anything? No. But it's easy to feel stupid against someone in a position of authority.

As it turns out, much worse back pain sent me back to the hospital. I had an angiogram, and the next day I signed papers for open-heart surgery or another angiography with stent deployment. My life was forever changed that day, the day I was told I had coronary artery disease—premature heart disease, which I inherited from my father, who died young.

My mission is to send a warning to women. We must make ourselves our number one cause and, as with me, be given another chance at life. You are your own best advocate and you deserve to be heard.

Lois

La Habra, California

**We must make
ourselves our
number one cause
and, as with me,
be given another
chance at life.**

For More Information...

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200 Independence Ave SW, Room 712E
Washington, DC 20201

Web site: www.womenshealth.gov/heart
www.womenshealth.gov/faq/heartdis.htm
Phone number: (800) 994-9662,
(888) 220-5446 TDD

National Heart, Lung, and Blood Institute Health Information Center, NIH

PO Box 30105

Bethesda, MD 20824-0105

Web site: www.nhlbi.nih.gov
www.hearttruth.gov

Phone number: (301) 592-8573,
(240) 629-3255 TTY

Office of Women's Health, FDA

5600 Fishers Ln

Rockville, MD 20857

Web site: www.fda.gov/womens
Phone number: (888) 463-6332

WISEWOMAN – Well-Integrated Screen- ing and Evaluation for Women Across the Nation, CDC

4770 Buford Hwy NE, MS K-77

Atlanta, GA 30341-3717

Web site: www.cdc.gov/wisewoman
Phone number: (800) 232-4636,
(888) 232-6348 TTY

American Heart Association

7272 Greenville Ave

Dallas, TX 75231

Web site: www.americanheart.org
Phone number: (800) 242-8721

Sister to Sister

4701 Willard Ave, Suite 223

Chevy Chase, MD 20815

Web site: www.sistertosister.org

Texas Heart Institute Heart Information Center

PO Box 20345

Houston, TX 77225-0345

Web site: www.texasheartinstitute.org/HIC
Phone number: (800) 292-2221