

PATIENT EDUCATION



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Heart Health for Women

Each year, more women die from **cardiovascular disease (CVD)** than from all forms of cancer combined. CVD is the leading cause of death in both men and women in the United States.

Keeping your heart healthy is important throughout your life. Making lifestyle changes, getting regular health care, and managing CVD-related conditions can decrease your risk of heart disease. A heart-healthy lifestyle also reduces your risk of other diseases, such as cancer.

This pamphlet explains

- *definition of cardiovascular disease*
- *risk factors*
- *assessing your risk*
- *how to live a heart-healthy lifestyle*

Definition of Cardiovascular Disease

CVD is a general term for diseases that affect the heart and blood vessels. Many are caused by the buildup of a waxy substance called **plaque** in the **arteries**. Plaque can narrow and harden the arteries, a condition called **atherosclerosis**. It can take several decades for atherosclerosis to develop.

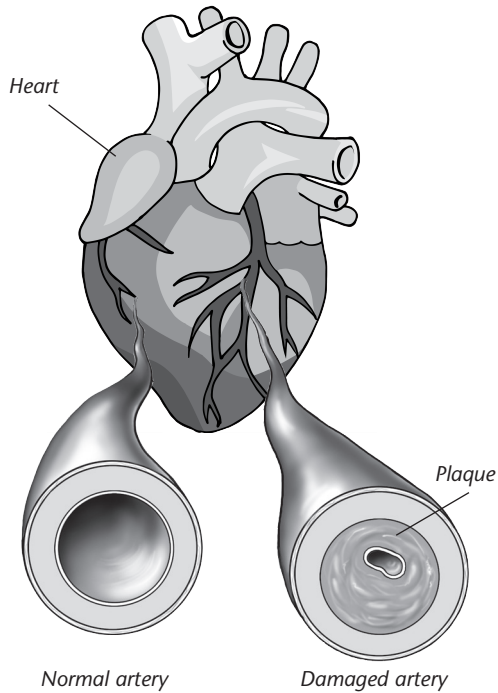
There are several types of CVD. The type of CVD depends on where atherosclerosis occurs in the body:

- **Coronary artery disease** affects the arteries that supply the heart with blood.

- **Peripheral artery disease** affects arteries that supply the other organs in your body.
- **Cerebrovascular disease** affects arteries that supply the brain.

Atherosclerosis makes it hard for blood to move through the arteries. If blood flow is blocked in a coronary artery, it causes a **heart attack**. If this happens in an artery in the brain, it can cause an **ischemic stroke**. If an artery ruptures in the brain, it is called a **hemorrhagic stroke**.

Atherosclerosis



Atherosclerosis develops when arteries are narrowed and hardened by plaque buildup. When atherosclerosis affects arteries that supply the heart, it is called coronary artery disease.

Women have unique risk factors for CVD that men do not share. Women also get different types of CVD than men. CVD in men is more likely to cause heart disease. CVD in women is more likely to cause stroke. Stroke can cause lifelong disability in those who survive. By 2030, it is estimated that 200,000 more women will be disabled by stroke than men in the United States.

Heart attack symptoms in women can be different from those of men. Women may not even know when they are having a heart attack or stroke (see box “Know the Signs of Heart Attack and Stroke”). All women need to learn these symptoms and call 9-1-1 if they experience them.

Risk Factors

Many people have risk factors for CVD. Some risk factors, such as increasing age and family history, cannot be changed. Others can be altered by making lifestyle changes or treating certain medical conditions.

Age

As people age, their risk of CVD increases. Men see an increase in their risk of CVD from ages 35 years to 44 years. Women see an increase in risk 10 years later (ages 55–64 years)—at about the time most women have gone through **menopause**. Changes in hormone levels after menopause are thought to affect a woman’s age-related risk of CVD. By about age 75 years, CVD risk for men and women is nearly the same.

High Blood Pressure

Blood pressure is the force the heart uses to move blood through the blood vessels to the organs and tissues. The inside walls of blood vessels are constantly subjected to these forces. Also, as we age, blood vessels become stiffer. When blood pressure is too high (a condition called **hypertension**), it can damage the vessel walls. Damaged areas inside blood vessels provide an ideal place for plaque to form.

High blood pressure is a key risk factor for CVD in women and is the most common risk factor for stroke. Before age 45 years, more men than women have high

Know the Signs of Heart Attack and Stroke

If you have signs and symptoms of heart attack or stroke, do not wait. Call 9-1-1 for emergency help immediately.

Stroke Symptoms

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
- Sudden confusion or trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, or loss of balance or coordination
- Sudden, severe headache with no known cause

Women and men have similar stroke symptoms, but women are more likely to delay seeking emergency care than men. Prompt treatment of ischemic stroke is essential.

Modified from The American Heart Association. Symptoms of a stroke. Available at: https://www.goredforwomen.org/about-heart-disease/symptoms_of_heart_disease_in_women/symptoms-of-a-stroke/. Accessed December 14, 2015.

Heart Attack Symptoms

- Uncomfortable pressure, squeezing, fullness, or pain in the center of your chest that lasts more than a few minutes or goes away and comes back
- Pain or discomfort in one or both arms, the back, neck, jaw, or stomach
- Shortness of breath with or without chest discomfort
- Breaking out in a cold sweat, nausea or lightheadedness

As with men, women’s most common heart attack symptom is chest pain or discomfort. But women may be more likely to have shortness of breath, pressure or pain in the lower chest or upper abdomen, dizziness, lightheadedness or fainting, upper back pressure, or fatigue.

Modified from The American Heart Association. Heart attack symptoms in women. Available at: http://www.heart.org/HEARTORG/Conditions/HeartAttack/WarningSignsofaHeartAttack/Heart-Attack-Symptoms-in-Women_UCM_436448_Article.jsp#.Vm7juUorIgs. Accessed December 14, 2015.

blood pressure. Starting at about age 55 years, the number of women with high blood pressure starts to increase. After age 65 years, more women than men have high blood pressure. High blood pressure also can occur in young women and during pregnancy.

It is important for women to have their blood pressure checked regularly and to get treatment if it is high. Lifestyle changes as well as medications are used to treat high blood pressure. If medications are prescribed, you should take them as directed, even if you feel fine.

Abnormal Triglyceride and Cholesterol Levels

Triglycerides are the most common form of fat in the body and provide energy to power the body's activities. **Cholesterol** is a building block for cells and **hormones**. Most of the cholesterol in your body is made by the liver. A small amount comes from food, such as meat and dairy products. There are two key kinds of cholesterol:

1. High-density lipoprotein (HDL or "good cholesterol") helps prevent heart disease. It picks up cholesterol in the bloodstream and takes it to the liver where it is broken down.
2. Low-density lipoprotein (LDL or "bad cholesterol") can collect in the walls of blood vessels. Too much LDL in the walls of the arteries can trigger a response by the body's immune system called **inflammation**. Inflammation can lead to a build-up of plaque in the arteries and eventually to atherosclerosis.

Abnormal cholesterol and triglyceride levels are risk factors for CVD in both men and women. The female hormone **estrogen** is thought to protect women from heart disease by naturally increasing the levels of HDL. But as a woman ages, her levels of LDL may start to increase. And although reducing LDL levels can help prevent CVD, it does not appear to help women as much as it helps men.

Diabetes Mellitus

Diabetes (also called **diabetes mellitus**) causes high levels of **glucose** in the blood. Health problems, including CVD, can arise if blood glucose levels are not controlled. Type 2 diabetes is caused by cells in the body becoming resistant to a hormone called **insulin**. Insulin moves glucose out of the bloodstream into cells, where it is used for energy. Risk factors for type 2 diabetes include being overweight, lack of exercise, abnormal cholesterol levels, and a higher-than-normal level of glucose in the blood (a condition called prediabetes).

Type 2 diabetes is a major CVD risk factor for women. Starting at age 20 years, more women than men have diabetes. The longer a woman has diabetes, the more likely it is that she will develop complications from the disease. In fact, the heart attack risk in a woman with diabetes is almost three times greater than the heart attack risk in a man with diabetes.

Lifestyle Factors

Smoking, lack of exercise, and being overweight are risk factors for CVD for men and women. Obesity has become a national health problem. More than 70% of men and more than 60% of women are obese. Where extra weight is carried also affects CVD risk. Extra fat in the abdomen (a waist size of 35 inches or more for women and 40 inches or more in men) increases the risk of diabetes, high blood pressure, and CVD to a greater extent than extra fat in the hips and thighs.

Risk Factors Specific to Women

The following risk factors unique to women include the following:

- **Gestational hypertension**—Having high blood pressure during pregnancy increases the risk of having CVD and high blood pressure later in life. The risk of serious blood pressure-related complications with a future pregnancy also is increased.
- **Preeclampsia**—This disorder can occur during pregnancy or after childbirth. If it is not diagnosed and treated, it can lead to serious health problems. Women who have had preeclampsia are at greater risk of developing CVD.
- **Gestational diabetes**—Diabetes that first appears during pregnancy increases the risk of developing diabetes and CVD after pregnancy. Women who have had gestational diabetes should be tested for diabetes 6–12 weeks after childbirth and then every 3 years.
- **Polycystic ovary syndrome (PCOS)**—PCOS is a leading cause of infertility that can affect all areas of the body, not just the reproductive system. Having PCOS increases the risk of diabetes and may increase the risk of CVD.
- Certain **autoimmune disorders**—Diseases such as lupus or rheumatoid arthritis, which are more common in women, are associated with an increased risk of CVD. Screening for CVD is recommended for women with these disorders.
- Hormonal birth control methods—Combined hormonal birth control methods contain both estrogen and **progestin**. They include the birth control pill, patch, and vaginal ring. Women using these methods have a small increased risk of stroke compared with nonusers. But for some women using these methods, the risk of stroke is higher. This group includes women aged 35 and older who smoke; women with additional risk factors for stroke, such as high blood pressure; and women who have migraine headaches with **aura**. These methods are not recommended for women with these risk factors.
- Hormone therapy for menopause—Combined hormone therapy (estrogen and progestin) is linked to a small increased risk of heart attack. For this reason, combined hormone therapy should not be used solely to protect against heart disease. Both combined hormone therapy and estrogen-only

therapy are associated with a small increased risk of stroke. More research is needed to study whether different forms of therapy and the age at which they are taken affect these risks.

Assessing Your Risk

All women need to have regular screening tests for diabetes and cholesterol levels and to have their blood pressure and weight measured. When and how often you should have these tests depend on your age and risk factors. If you are at risk of CVD, lifestyle changes usually are recommended first. If lifestyle changes alone are not enough, or you are at high risk of CVD, your doctor or other health care professional may suggest medications to treat high blood pressure or lower your cholesterol levels.

A Heart-Healthy Lifestyle

Everyone needs to live a heart-healthy lifestyle. This includes eating a healthy diet, limiting alcohol, staying at a healthy weight, not smoking, and getting daily exercise.

Eat a Heart-Healthy Diet

A heart-healthy diet stresses vegetables, fruits, beans, and low-fat dairy products; includes fish and poultry; and limits red meat, sugary foods and drinks, and sodium. Cutting down on the amount of fast food or processed food, which is loaded with fat, salt, and sugar, is a great way to start eating more healthfully.

Fat is a key part of a healthy diet, but the type of fat that you eat is important. Most of the fat that you eat should be unsaturated fats. Unsaturated fats come mostly from plants like olives, beans, and seeds. Olive, canola, peanut, and sunflower oils are all unsaturated fats. Unsaturated fat also is found in fish, especially fatty fish like salmon. You should eat fish at least twice a week. If you are pregnant, it is safe to eat fish, but do not eat those that have high mercury levels—shark, swordfish, tilefish, and king mackerel. Limit canned albacore tuna to no more than 6 ounces per week.

Increasing your intake of fiber also can help lower your risk of heart disease and diabetes. Fiber is found in plant foods. It is the part of the plant that your body cannot digest. Foods that are good sources of fiber include fruits (such as dried fruits, berries, oranges, and apples and peaches with the skin), vegetables (especially dried beans and peas and leafy vegetables like spinach and kale), and whole-grain foods (such as whole-wheat bread or brown rice).

Moderate alcohol use—no more than 1 drink a day for women—may help decrease the risk of heart disease in those who are middle aged or older. But drinking at more than a moderate level can increase the risk of CVD as well as other serious health problems, such as cancer.

Control Your Weight

Obesity and being overweight increase the risk of many health problems, including heart disease, high blood pressure, and diabetes. Weight loss is recommended

if you are overweight or obese. Your doctor or other health care professional may recommend a diet and exercise plan that can help you lose weight safely and effectively. Medications to help with weight-loss or bariatric surgery (weight-loss surgery) may be options for some obese people.

Stop Smoking

Smoking is a major cause of heart disease. Your risk of heart disease increases the more you smoke and the longer you smoke. Female smokers have a higher risk of heart disease than male smokers. If you smoke, quit. You can get help from your doctor or other health care professional and from “quit lines” that have been set up in every state. Call 1-800-QUIT-NOW to find out how to access the quit line in your area.

Stay Active

Lack of physical activity can increase your risk of CVD. Regular exercise can strengthen your heart and promote the health of your blood vessels. It helps boost your HDL levels and lower blood pressure levels, which can reduce your risk of heart disease and stroke.

The Centers for Disease Control and Prevention recommend getting at least 150 minutes of exercise every week. You can divide the 150 minutes into 30-minute workouts on 5 days per week or into smaller 10-minute periods throughout each day.

Finally...

There are key differences in how CVD affects women and men. Work with your doctor or other member of your health care team to get recommended screening tests to assess your CVD risk. Learn to spot the symptoms of heart attack and stroke. And no matter what your risk, adopt a heart-healthy lifestyle that includes healthy eating, weight control, not smoking, and regular physical activity.

Glossary

Arteries: Blood vessels that carry oxygenated blood from the heart to the rest of the body.

Atherosclerosis: Narrowing and clogging of the arteries by a buildup of plaque deposited in vessel walls; also called hardening of the arteries.

Aura: A sensation or feeling, such as flashing lights, a particular smell, dizziness, or seeing spots, experienced just before the onset of certain disorders like migraine attacks or epileptic seizures.

Autoimmune Disorders: Conditions in which the body attacks its own tissues.

Cardiovascular Disease (CVD): Diseases of the heart and blood vessels.

Cerebrovascular Disease: Diseases that affect the blood vessels in the brain.

Cholesterol: A natural substance that serves as a building block for cells and hormones and helps to

carry fat through the blood vessels for use or storage in other parts of the body.

Coronary Artery Disease: A disease in which the arteries that supply blood to the heart are narrowed by the buildup of cholesterol and other deposits in the walls of the arteries.

Diabetes Mellitus: A condition in which the levels of sugar in the blood are too high.

Estrogen: A female hormone produced in the ovaries.

Gestational Diabetes: Diabetes that arises during pregnancy.

Gestational Hypertension: New-onset high blood pressure that occurs after 20 weeks of pregnancy.

Glucose: A sugar that is present in the blood and is the body's main source of fuel.

Heart Attack: Damage to an area of heart muscle that occurs when its blood supply is interrupted. It almost always is caused by narrowing or blockage of the arteries in the heart.

Hemorrhagic Stroke: A sudden interruption of blood flow to all or part of the brain that can occur when a blood vessel in the brain bursts (ruptures) and often resulting in loss of consciousness and temporary or permanent paralysis.

Hormones: Substances made in the body by cells or organs that control the function of cells or organs. An example is estrogen, which controls the function of female reproductive organs.

Hypertension: High blood pressure.

Inflammation: Pain, swelling, redness, and irritation of tissues in the body.

Insulin: A hormone that lowers the levels of glucose (sugar) in the blood.

Ischemic Stroke: A sudden interruption of blood flow to all or part of the brain, caused by blockage of a blood vessel in the brain and often resulting in loss of consciousness and temporary or permanent paralysis.

Menopause: The time in a woman's life when menstruation stops; defined as the absence of menstrual periods for 1 year.

Peripheral Artery Disease: A disease in which the arteries that supply blood to the body are narrowed

by the buildup of cholesterol and other deposits in the walls of the arteries.

Plaque: A waxy substance made up of cholesterol and different types of cells that forms within the walls of arteries and causes atherosclerosis.

Polycystic Ovary Syndrome (PCOS): A condition characterized by two of the following three features: the presence of growths called cysts on the ovaries, irregular menstrual periods, and an increase in the levels of certain hormones.

Preeclampsia: A disorder that can occur during pregnancy or after childbirth in which there is high blood pressure and other signs of organ injury, such as an abnormal amount of protein in the urine, a low number of platelets, abnormal kidney or liver function, pain over the upper abdomen, fluid in the lungs, or a severe headache or changes in vision.

Progestin: A synthetic form of progesterone that is similar to the hormone produced naturally by the body.

Triglycerides: A form of body fat found in the blood and tissues. High levels are associated with cardiovascular disease.

This information was designed as an educational aid to patients and sets forth current information and opinions related to women's health. It is not intended as a statement of the standard of care, nor does it comprise all proper treatments or methods of care. It is not a substitute for a treating clinician's independent professional judgment. Please check for updates at www.acog.org to ensure accuracy.

Copyright February 2016 by the American College of Obstetricians and Gynecologists. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, posted on the internet, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.

This is EP122 in ACOG's Patient Education Pamphlet Series.

ISSN 1074-8601

American College of Obstetricians and Gynecologists

409 12th Street, SW

PO Box 96920

Washington, DC 20090-6920