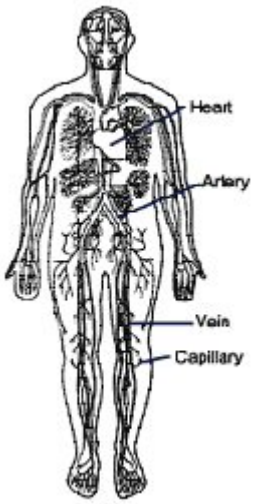
Diabetes, Keeping Your Heart and Blood Vessels Healthy

Too much glucose (*sugar*) in the blood for a long period of time can cause problems for those who have diabetes. This high blood glucose can damage many parts of the body, such as the heart, blood vessels, eyes, and kidneys. Heart and blood vessel disease can lead to heart attacks and strokes, which is the leading cause of death for people with diabetes. There are many things you can to do slow down or prevent the complications from diabetes.



WHAT DO MY HEART AND BLOOD VESSELS DO?

Your heart and blood vessels make up your circulatory system. Your heart is a big muscle that pumps blood through your body. Your heart pumps blood carrying oxygen to large blood vessels (*arteries*) and small blood vessels (*capillaries*). Other blood vessels, called veins, carry blood back to the heart.

HOW DO MY BLOOD VESSELS GET CLOGGED?

Several things, including having diabetes, can make your blood cholesterol level too high. Cholesterol is a substance that is made by the body and used for many important functions. It is also found in some food that comes from animals. When cholesterol is too high, the insides of large blood vessels become narrowed, even clogged. Narrowed and clogged blood vessels make it harder for enough blood to get to all parts of your body. This problem is called atherosclerosis.

WHAT CAN HAPPEN WHEN BLOOD VESSELS ARE CLOGGED?

When arteries become narrowed and clogged, you may have heart problems and are at increased risk for heart attack and stroke:

- Chest pain (angina) causes pain in your chest, arms, shoulders, or back. You may feel the pain more when your heart beats faster, such as when you exercise. The pain may go away when you rest. You also may feel very weak and sweaty. If you do not get treatment, chest pain may happen more often. If diabetes has damaged the heart nerves, you may not feel the chest pain.
- Heart attack. A heart attack happens when a blood vessel in or near the heart becomes blocked. Not enough blood can get to that part of the heart muscle so the area becomes oxygen deprived and the heart muscle may be permanently damaged.

WHAT ARE THE WARNING SIGNS OF A HEART ATTACK?

You may have one or more of the following warning signs:

- Chest pain or discomfort.
- Pain or discomfort in your arms, back, jaw, or neck.
- Indigestion or stomach pain.
- Shortness of breath.
- Sweating.
- Nausea or vomiting.
- Light-headedness.
- You may have no warning signs at all, or they may come and go.

HOW DOES HEART DISEASE CAUSE HIGH BLOOD PRESSURE?

Narrowed blood vessels leave a smaller opening for blood to flow through. It is like turning on a garden hose and holding your thumb over the opening. The smaller opening makes the water shoot out with more pressure.

In the same way, narrowed blood vessels lead to high blood pressure. Other factors, such as kidney problems and being overweight, can also lead to high blood pressure.

Many people with diabetes also have high blood pressure. If you have heart, eye, or kidney problems from diabetes, high blood pressure can make them worse.

If you have high blood pressure, ask your caregiver how to lower it. Your caregiver may be asked to take blood pressure medicine every day. Some types of blood pressure medicine can also help keep your kidneys healthy. To lower your blood pressure, your may be asked to lose weight; eat more fruits and vegetables; eat less salt and high-sodium foods, such as canned soups, luncheon meats, salty snack foods, and fast foods; and drink less alcohol.

WHAT ARE THE WARNING SIGNS OF A STROKE?

A stroke happens when part of your brain is not getting enough blood and stops working. Depending on the part of the brain that is damaged, a stroke can cause:

- Sudden weakness or numbness of your face, arm, or leg on one side of your body.
- Sudden confusion, trouble talking, or trouble understanding.
- Sudden dizziness, loss of balance, or trouble walking.
- Sudden trouble seeing in one or both eyes or sudden double vision.
- Sudden severe headache.

Sometimes, one or more of these warning signs may happen and then disappear. You might be having a "mini-stroke," also called a TIA (*transient ischemic attack*). If you have any of these warning signs, tell your caregiver right away.

HOW CAN CLOGGED BLOOD VESSELS HURT MY LEGS AND FEET?

Peripheral vascular disease can happen when the openings in your blood vessels become narrow and not enough blood gets to your legs and feet. You may feel pain in your buttocks, the back of your legs, or your thighs when you stand, walk, or exercise. Sometimes, surgery is necessary to treat this problem.

WHAT CAN I DO TO KEEP MY BLOOD VESSELS HEALTHY AND PREVENT HEART DISEASE AND STROKE ?

- Keep your blood glucose under control. An A1c blood test will probably be ordered by your caregiver at least twice a year. The A1c test tells you your average blood glucose for the past 2 to 3 months and can give valuable information on the overall control of your diabetes.
- Keep your blood pressure under control. Have it checked at every health care visit. If you are on medication to control blood pressure, take it exactly as prescribed. The target for most people is below 130/80.
- Keep your cholesterol under control. Have it checked at least once a year. The targets for most people are:
  - LDL (bad) cholesterol: below 100 mg/dl.
  - HDL (good) cholesterol: above 40 mg/dl in men and above 50 mg/dl in women.
  - Triglycerides (another type of fat in the blood): below 150 mg/dl.
- Make physical activity a part of your daily routine. Aim for at least 30 minutes of exercise most days of the week. Check with your caregiver to learn what activities are best for you.
- Make sure that the foods you eat are "heart-healthy." Include foods high in fiber, such as oat bran, oatmeal, whole-grain breads and cereals, fruits, and vegetables. Cut back on foods high in saturated fat or cholesterol, such as meats, butter, dairy products with fat, eggs, shortening, lard, and foods with palm oil or coconut oil.
- Maintain a healthy weight. If you are overweight, try to exercise most days of the week. See a registered dietitian for help in planning meals and lowering the fat and calorie content.
- If you smoke, QUIT. Your caregiver can tell you about ways to help you quit smoking.
- Ask your caregiver whether you should take an aspirin every day. Studies have shown that taking a low dose of aspirin every day can help reduce your risk of heart disease and stroke.
- Take your medicines as directed.

SEEK MEDICAL CARE IF:

- You have any of the warning signs of a heart attack or stroke.
- If you have pain in your legs or feet when walking.
- If your feet and legs are cool or cold to the touch.

FOR MORE INFORMATION

- Diabetes educators (nurses, dietitians, pharmacists, and other health professionals).
  - To find a diabetes educator near you, call the American Association of Diabetes Educators (AADE) toll-free at 1-800-TEAMUP4 (1-800-832-6874), or look on the Internet at www.diabeteseducator.org and click on "Find a Diabetes Educator."
- Dietitians.
  - To find a dietitian near you, call the American Dietetic Association toll-free at 1-800-366-1655, or look on the Internet at www.eatright.org and click on "Find a Nutrition Professional."
- Government.
  - The National Heart, Lung, and Blood Institute (NHLBI) is part of the National Institutes of Health. To learn more about heart and blood vessel problems, write or call NHLBI Information Center, P.O. Box 30105, Bethesda, MD 20824-0105, (301) 592-8573; or see www.nhlbi.nih.gov on the Internet.
- To get more information about taking care of diabetes, contact:

National Diabetes Information Clearinghouse
1 Information Way
Bethesda, MD 20892-3560
Phone: 1-800-860-8747 or (301) 654-3327
Fax: (301) 907-8906
Email: ndic@info.niddk.nih.gov
Internet: www.diabetes.niddk.nih.gov

National Diabetes Education Program
1 Diabetes Way
Bethesda, MD 20892-3600
Phone: 1-800-438-5383
Fax: (301) 907-8906
Internet: http://ndep.nih.gov

American Diabetes Association
1701 North Beauregard Street
Alexandria, VA 22311
Phone: 1-800-342-2383
Internet: www.diabetes.org

Juvenile Diabetes Research Foundation Int'l
26 Broadway14th floor
New York, NY 10004
Phone: 1-800-533-2873
Internet: www.jdrf.org

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