

Carotid Artery Disease

The carotid arteries are located on each side of your neck. They provide the main blood supply to your brain. Carotid artery disease occurs when atherosclerosis develops in the carotid arteries. Atherosclerosis is a process in which deposits called plaque build up in the arteries, decreasing blood flow. Carotid artery disease is a major risk factor for stroke.

This brochure is designed to provide you with information about carotid artery disease, who is at risk, and how it is diagnosed and treated.

Causes

Although atherosclerosis may occur at any age, it is more common in people over age 45 and people with a family history of heart disease. These are risk factors you can't control. Risk factors you can control include:

- Smoking
- High blood cholesterol
- High blood pressure
- Diabetes
- Obesity
- Physical inactivity

About strokes

A stroke occurs when blood flow is cut off to part of the brain and brain tissue is deprived of oxygen and nutrients. There are two kinds of stroke, hemorrhagic and ischemic. Hemorrhagic strokes are caused by bleeding within the brain. Ischemic strokes, which are far more common, are caused by a blockage of blood flow in an artery. This can occur when a piece of plaque breaks off, travels through your bloodstream and becomes lodged in a brain artery.

A stroke is a medical emergency. If you have symptoms of a stroke, call 911. Early care can prevent damage to the brain. Symptoms of a stroke often are not noticed by the person having a stroke. It is important to review these symptoms with your family members and friends. Symptoms of a stroke include:

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

A transient ischemic attack (TIA) occurs when the blood flow to the brain is briefly interrupted. Symptoms are similar to a stroke, but don't last as long. Transient ischemic attacks are often warning signs that a person is at risk for a more serious stroke. Contact your doctor immediately if you have symptoms of a TIA.

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Diagnosis

In some cases, carotid artery disease is detected during a regular checkup with your doctor. If your doctor suspects you have the disease, he or she will ask you questions and listen to your arteries. He or she may also decide to do special tests that can be used to help diagnose carotid artery disease.

- Carotid duplex imaging is a painless test in which sound waves are bounced off the moving blood and the tissue in an artery and formed into an image. This helps your doctor look at the structure of your carotid arteries and see how well blood is flowing to your brain.
- MRI/MRA is a noninvasive radiology test that uses computer imaging to construct a 3D image of the brain and its arteries.
- Carotid angiography is an X-ray of your arteries. It is performed by injecting a small amount of dye through a needle. The dye mixes with your blood and flows through your arteries. X-ray pictures are taken and used by your doctor to see if your arteries are narrowed or blocked.

Treatment

- The treatment for carotid artery disease depends on the degree of narrowing found in the carotid artery, whether or not you have experienced any symptoms and your overall health. Mild or moderate narrowing may be treated with medication and by reducing your **risk factors** to slow the narrowing of the artery.
- Carotid endarterectomy is a surgical procedure that may reduce the risk of a stroke. In this procedure, an incision is made in your neck. The artery is opened, the plaques are removed, and the artery and incision are closed.
- Carotid stenting is a less invasive treatment recently developed to dilate the narrowed carotid artery.

Self-care and prevention

Atherosclerosis cannot be cured or completely prevented, but you can control your risk factors to reduce your chance of stroke. Follow these steps:

- **Do not use tobacco.** Nicotine causes your blood vessels to narrow, decreases the amount of oxygen in your blood and can cause the blood to clot more easily. Avoid all forms of tobacco, including cigarettes, pipes, cigars and chewing tobacco. Even one or two cigarettes a day is harmful.
- **Lower your cholesterol and saturated fat intake.** This can reduce the plaques in your arteries. Cholesterol is found in animal products that contain fat, such as egg yolks, meats and dairy products. Saturated fats are found in most animal fats and some plant oils (coconut oil, palm oil and cocoa butter).
- **Control high blood pressure.** This is one of the most important things you can do to reduce your stroke risk. Have your blood pressure checked regularly as recommended by your doctor. Follow your doctor's recommendations for lifestyle changes and take any medications prescribed for you.
- **Control diabetes.** Control of blood sugar levels can delay complications that increase the risk of stroke.
- **Maintain a healthy weight.** Being overweight contributes to other risk factors for stroke such as high blood pressure, heart disease and diabetes. Losing as little as 10 pounds may lower your blood pressure and improve your cholesterol levels.
- **Be physically active.** Being physically active reduces your risk of stroke in many ways. You don't need to exercise vigorously—just do it regularly. Try walking for 30 minutes, most days of the week.



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