

► CHOLESTEROL AND STROKE ◀

Stroke is a “brain attack” cutting off vital supplies of blood and oxygen to the brain. It can damage brain cells that control everything we do – from thinking, to speaking, to walking to breathing. Symptoms include:

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

A stroke happens when an artery leading into the brain becomes blocked or ruptures. These arteries can be blocked by blood clots formed in the heart or elsewhere in the body or by the gradual build-up of plaque and other fatty deposits such as cholesterol.

What is cholesterol?

Cholesterol is a soft, waxy, fatty material found in the bloodstream and in all of your body’s cells. Your body naturally makes all the cholesterol it needs for use to form cell membranes, some hormones and vitamin D. Certain foods (such as egg yolks, liver or foods fried in animal fat or tropical oils) contain cholesterol and also saturated fats which increase blood cholesterol levels.

Cholesterol can not dissolve in the blood on its own. It has to be delivered to and from the cells by tiny particles called lipoproteins. The two main lipoproteins that have a direct effect on cholesterol levels are low-density lipoproteins (LDL) and high-density lipoproteins (HDL).

How does cholesterol affect stroke risk?

High cholesterol may indirectly increase stroke risk by increasing your risk for heart disease – an important stroke risk factor. In addition, plaque formation in the carotid arteries to the brain may also block normal blood flow and cause a stroke.

What is LDL cholesterol?

LDL cholesterol is also often referred to as “bad” cholesterol due to its artery clogging properties. LDL carries cholesterol in the blood stream to the tissues, where it can be used or stored in your body. This type of cholesterol can cause a build-up of plaque, a thick, fatty substance that can clog arteries. The plaque can eventually cause narrowing of the arteries or block them completely, causing a heart attack or stroke.

What is HDL cholesterol?

HDL has the opposite effect of LDL cholesterol. HDL transports cholesterol from the tissues to the liver, where it is expelled from the body. High levels of this type of cholesterol tend to

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protect against heart attack and stroke, and it is therefore known as “good” cholesterol. A low HDL level may indicate a greater risk of heart attack or stroke.

What increases blood cholesterol levels?

Blood cholesterol levels may be affected by a variety of factors, including:

- Foods high in saturated fat
- Being overweight
- Lack of exercise
- Inherited health traits
- Age (Most but not all people experience gradual increases in blood cholesterol as they become older)
- Gender – Before the age of 50, women tend to have lower cholesterol levels than men. However, once women reach menopause, their LDL “bad” cholesterol tends to rise and their HDL “good” cholesterol tends to fall. After the age of 50, women tend to have higher cholesterol levels than those of men of the same age. Throughout life, women’s HDL cholesterol remains higher than that of men. This difference may help explain why women under the age of 80 usually experience lower rates of heart disease and stroke than men.

Should I be checked for high cholesterol?

According to the National Heart, Lung and Blood Institute’s (NHLBI) Cholesterol Education Program, all adults 20 years of age or older should have their cholesterol levels checked at least once every five years. Your cholesterol should be checked more frequently if you are older than 45 or have a family history of high cholesterol or heart attacks. A simple blood test can determine your cholesterol levels.

What do my cholesterol levels mean?

According to the NHLBI, for people over age 18, a high cholesterol level is considered to be over 200 mg/dL for your total cholesterol, which combines both LDL and HDL levels. If the total blood cholesterol number is higher than 200, or if your HDL is lower than 45, you generally have an increased risk for heart disease and stroke. Your doctor can determine if you are at greater overall risk.

Total Blood Cholesterol Levels

Desirable: less than 200/mg/dL
Borderline: 200-239 mg/dL
High: 240 mg/dL or higher

HDL-Cholesterol Levels

Desirable: 45 mg/dL or higher

LDL-Cholesterol Levels

Desirable: less than 130mg/dL
Borderline: 130-159 mg/dL
High: 160 mg/dL or higher

If you have had a stroke or previous heart attack, your cholesterol levels may need to be even lower than as indicated here.

What can I do to lower my cholesterol levels?

A low-fat diet: A diet with 30 percent or fewer calories from total fat, and low in saturated fat is important for lowering cholesterol levels. Your diet should also include vegetables, fruits, lean meats such as chicken and fish, low-fat dairy products and a limited number of egg yolks. Adding fiber such as whole-grain bread, cereal products or dried beans to the diet may also help reduce cholesterol levels by 6 to 19 percent, according to published studies. Along with the diet, there should be a change in cooking habits, with an emphasis on baking, broiling, steaming and grilling rather than frying foods. If you do fry foods, use non-stick cookware and non-stick spray.

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Exercise: Active people generally tend to have lower cholesterol levels. Regular exercise also seems to slow down or stop the clogging of blood vessels by fatty deposits. Your doctor may recommend a program of regular exercise to help lower your cholesterol. Be sure to check with your doctor before starting any exercise program. For the best results, you should take part in some aerobic activity most days of the week, for at least 20 or 30 minutes each time. This can be achieved by a brisk walk with a friend, taking the stairs instead of the elevator or parking farther away from your destination.

Medication: Although many people can successfully control their cholesterol levels through diet and exercise alone, a number cannot. For these people, medication may be prescribed by a doctor to lower cholesterol levels. If your doctor decides you need to add medication to help control your cholesterol, be sure to TAKE IT AS DIRECTED, even on days you feel fine. You and your doctor may have to try several different medications before you find the one that's right for you. This is very common, so don't be discouraged.

Statins are a widely used class of cholesterol lowering medications that may help reduce the size of the plaque that causes hardening and clogging of the arteries. New studies have also shown that some statins may prove to be effective in reducing the risk of stroke or a transient ischemic attack (TIA) in patients who have had a heart attack, even though they have average or only slightly elevated cholesterol levels.

Several other cholesterol-lowering drugs are also available and may prove effective in certain individuals. Talk with your doctor about which medication is right for you.

*For an appointment with a Jefferson physician, more information or health information and education programs, please call **1-800-JEFF-NOW** (1-800-533-3669) or visit our Web site at **www.JeffersonHospital.org***

Speech- or hearing-impaired callers can access JEFF NOW® by calling 1-800-654-5984.

This information comes from the National Stroke Association.