HEART SERVICES

Symptoms & Causes

High Cholesterol

Symptoms & Causes | Diagnosis & Treatment

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What is High Cholesterol?

High cholesterol, also called hypercholesterolemia, is the elevated level of a fatty, wax-like substance called cholesterol in the bloodstream. Some cholesterol is naturally produced by your body and helps to form healthy cells. However, abnormally high cholesterol can leave fatty deposits that block blood flow through the arteries. High cholesterol can also increase the risk of coronary artery disease (also called atherosclerosis) and stroke.

Types of Cholesterol

Two types of cholesterol are routinely measured:

- High-density lipoprotein (HDL) is sometimes referred to as "good" cholesterol. This is because it helps protect the heart by bringing cholesterol from other body parts to the liver, where it is excreted. HDL may also reduce inflammation that is linked with coronary artery disease and heart attacks.
- Low-density lipoprotein (LDL) is sometimes referred to as "bad" cholesterol. This is because it increases the risk of cardiovascular disease by contributing to a buildup of cholesterol in the arteries. Lipoprotein refers to the cholesterol component (a lipid) and the protein it is attached to for transportation through the blood. In addition to measuring HDL and LDL levels, physicians evaluate the patient's total cholesterol and the level of triglycerides in the blood. High triglyceride levels also play a role in the development of heart disease.

Levels of High Cholesterol

In the United States, the following guidelines are used to help evaluate adults at potential risk for developing coronary artery disease based on their cholesterol and triglyceride levels. Four measurements are included:

- Total cholesterol (which is the sum of your LDL + HDL + 20% of the triglyceride level)
- LDL cholesterol
- HDL cholesterol
- Triglycerides

Guidelines for total cholesterol

A blood test called a lipoprotein panel can measure your cholesterol levels. Cholesterol in your blood is measured in milligrams per deciliter (mg/dL).

- Desirable: Below 200 mg/dL
- Borderline High: 200-239 mg/dL
- High: 240 mg/dL and above

Guidelines for LDL cholesterol

LDL cholesterol levels are a bit more complicated as they consider whether the individual has a history of coronary artery disease.

- Desirable: 100-129 mg/dL
  - Below 100 mg/dL - For people with diabetes or are at risk for coronary artery disease; near optimal for people with uncomplicated artery disease
  - Below 70 mg/dL - For individuals with coronary disease
- Borderline high: 130-159 mg/dL
  - (High in individuals with coronary artery disease)
- High: 160-189
  - (Very high for individuals with coronary artery disease)
- Very high: 190 mg/dL and above

Guidelines for HDL cholesterol

These guidelines differ slightly by gender; owing to estrogen production, pre-menopausal women tend to have higher HDL levels than their male peers. As opposed to the LDL cholesterol levels, the higher the level of HDL cholesterol found in the blood, the better.

- At risk: In women, below 50mg/dL
  - In men, below 40 mg/dL
- Better: In women, 50-59 mg/dL
  - In men, 40-59 mg/dL
- Desirable: 60 mg/dL and above

Guidelines for triglycerides

Triglycerides are not a type of cholesterol, but they are part of a lipoprotein panel (the test that measures cholesterol levels).

- Desirable: Below 150 mg/dL
- Borderline high: 150-199 mg/dL
- High: 200-499 mg/dL
- Very high: 500 mg/dL and above

More to explore

- Cholesterol: How it raises your risk
- High cholesterol: Making lifestyle changes

Signs and Symptoms of High Cholesterol

Having high cholesterol does not produce any symptoms. Therefore, it's important to get evaluated by a healthcare professional regularly, as they can monitor your cholesterol levels with routine blood tests.

What Causes High Cholesterol?

Various factors can contribute to high blood cholesterol, including other health conditions and prescription drugs. These include:

- Lupus
- Diabetes
- HIV/AIDS
- Hypothyroidism and hyperthyroidism
- Chronic kidney disease
- Polycystic ovary syndrome
- Medications for acne, cancer, high blood pressure, HIV/AIDs, arrhythmias, and anti-rejection medication used by organ transplant patients

Risk Factors for High Cholesterol

Risk factors for high cholesterol include:

- A genetic tendency toward elevated cholesterol levels also called familial hypercholesterolemia
- Old age, as the liver becomes less effective at getting rid of LDL cholesterol with age
- Being inactive
- Obesity
- Use of tobacco and alcohol
- Poor diet, especially consumption of foods containing saturated and trans fats
- High levels of stress, which can trigger hormonal changes related to cholesterol production

Fortunately, many of these lifestyle factors can be changed. Even individuals with familial hypercholesterolemia can reduce their risk of heart disease and stroke with appropriate and timely treatment.

Complications

As cholesterol deposits and plaque form in the arteries, narrowing the flow of blood, patients may begin to feel symptoms including chest pain. A heart attack or stroke may follow if there is a tear in the artery and a blood clot obstructs the artery to the heart or brain.

In some cases, blood flow is restricted in a peripheral artery, which brings blood to the legs or arms. People who have this condition, called peripheral artery disease, are more likely to have restricted blood flow to the arteries of the heart as well (coronary artery disease). This can lead to a heart attack. People with high cholesterol are also more likely to develop high blood pressure.

High Cholesterol Prevention

Preventing high cholesterol – or reducing your risk of developing it – can be achieved by:

- Quitting smoking
- Exercising regularly
- Limiting intake of saturated and trans fats (found primarily in animal foods)
- Eating foods that are high in fiber
- Drinking less alcohol
- Limiting salt
- Maintaining a healthy weight
- Keeping stress to a minimum
- Seeing your doctor regularly to monitor your cholesterol levels

Trust NewYork-Presbyterian for High Cholesterol Management

If you are looking for high cholesterol and related cardiovascular risk care, schedule an appointment at one of NewYork-Presbyterian's multiple locations throughout New York City, Westchester, or the Hudson Valley. One of our highly experienced cardiologists will provide a comprehensive evaluation and review all of your treatment options.

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