Cholesterol and Women's Cardiovascular Health

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What is cholesterol?

Cholesterol is a fatty, wax-like substance. Your body uses cholesterol to make the outer coverings of *cells*. Cholesterol is a part of certain *hormones*, including *estrogen* and *testosterone*. It also helps your body make vitamin D and produces the *bile* that helps you digest food.

Where does cholesterol come from?

The liver makes most of the cholesterol in your body. A small amount comes from foods, such as meat and dairy products. The fat in these foods is turned into *triglycerides*. Triglycerides travel through the bloodstream and are stored in fat cells as a source of energy. The body also converts sugars in fruits and sugary foods into triglycerides.

What is "good" and "bad" cholesterol?

In the body, cholesterol is packaged with a protein and triglycerides into a substance called a *lipoprotein*. There are two main types of lipoproteins:

- LDL (low-density lipoprotein)—This type of lipoprotein carries cholesterol to where it is needed in the body. If there is too much of it, it tends to collect in the walls of blood vessels. LDL sometimes is called "bad cholesterol."
- HDL (high-density lipoprotein)—This type of lipoprotein picks up cholesterol in the bloodstream and takes it back to the liver. The liver breaks down cholesterol so that it can pass out of the body. HDL sometimes is called "good cholesterol."

What is dyslipidemia?

Having abnormal levels of cholesterol or triglycerides is called dyslipidemia. A common dyslipidemia in the United States is having an LDL cholesterol level that is too high, an HDL cholesterol level that is too low, and elevated levels of triglycerides. This type of dyslipidemia increases the risk of *cardiovascular disease*.

How does having a high LDL cholesterol level lead to cardiovascular disease?

When the level of LDL is high, it can collect inside the walls of blood vessels. When the level of HDL is low, there may not be enough available to remove the "bad cholesterol" from the blood vessels. LDL within the walls of blood vessels triggers a response by the body's **immune system**. Eventually, this immune response can lead to a buildup of a substance called plaque in the blood vessels. Plaque can narrow and harden the arteries, a condition called **atherosclerosis**.

Over time, plaque can develop into a blood clot that narrows or blocks the flow of blood in an artery. If this occurs in an artery in the heart, it can cause a **heart attack**. If this occurs in an artery in the brain, it can cause a **stroke**.

Besides abnormal cholesterol, what are other risk factors for cardiovascular disease?

Other risk factors are advancing age, male sex, family history, smoking, physical inactivity, obesity, a poor diet, and medical conditions such as **diabetes mellitus** and high blood pressure.

What are some risk factors for cardiovascular disease that are unique to women?

Polycystic ovary syndrome, high blood pressure disorders that occur during pregnancy, and **gestational diabetes** are all risk factors for cardiovascular disease that are unique to women.

How are my cholesterol levels measured?

A simple blood test can show if your cholesterol levels are healthy. A complete lipoprotein analysis measures the levels of total cholesterol, LDL cholesterol, HDL cholesterol, and triglycerides.

When should my cholesterol levels be measured?

Women without risk factors should have their cholesterol levels measured every 5 years beginning at age 45 years. Women who have risk factors for cardiovascular disease may need to start cholesterol screening earlier.

What lifestyle changes can I make to reduce my risk of cardiovascular disease?

The following changes may reduce your risk of cardiovascular disease:

- Eat a heart-healthy diet. A heart-healthy diet is one that emphasizes vegetables, fruits, beans, and low-fat dairy products; includes fish and poultry; and limits red meat, sugary foods and drinks, and sodium.
- Exercise. Exercise strengthens your heart and promotes the health of your blood vessels. It helps boost your HDL levels and lower blood pressure levels.
- Lose weight. Weight loss is recommended if you are overweight or obese.
- Stop smoking. Smoking is one of the biggest risk factors for heart disease. It decreases HDL levels and may increase the level of triglycerides in your blood.

Is there medication that can help reduce my cholesterol levels?

Statins are drugs that cause the liver to make less cholesterol. In addition to lowering LDL levels, they also may help decrease the levels of triglycerides and increase levels of HDL.

Glossary

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

Bile: A substance made in the liver that helps digest fats.

Cardiovascular Disease: Disease of the heart and blood vessels.

Cells: The smallest units of a structure in the body; the building blocks for all parts of the body.

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.

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.

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.

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.

Immune System: The body's natural defense system against foreign substances and invading organisms, such as bacteria that cause disease.

Lipoprotein: A substance that transports cholesterol to and from the liver throughout the blood.

Polycystic Ovary Syndrome: A condition characterized by two of the following three features: the presence of many small fluid-filled sacs in the ovaries, irregular menstrual periods, and an increase in the levels of certain hormones.

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

Testosterone: A hormone produced by the testes in men and in smaller amounts by the ovaries and other tissues in women that is responsible for male sex characteristics such as hair growth, muscle development, and a lower voice.

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

If you have further questions, contact your obstetrician–gynecologist.