What is hypercholesterolemia?

Hypercholesterolemia is a condition in which the level of cholesterol in your blood is high. When you have too much cholesterol, deposits of fat in the blood called plaque form inside blood vessel walls. The blood vessel walls thicken and become narrower (a condition call atherosclerosis). This change in the blood vessels reduces blood flow the through the vessels, increasing your risk of heart disease and possibly leading to heart attacks or strokes.

Cholesterol is a naturally occurring fatty substance. Your body needs small amounts of cholesterol to make and maintain nerve cells and to produce hormones. Most of the cholesterol in your blood is made by your liver from the fats, carbohydrates and proteins you eat. You also get cholesterol by eating animal products such as meat, eggs, and dairy products.

The two most important components of cholesterol are LDL (low-density lipoprotein) and HDL (high-density lipoprotein). LDL and HDL carry cholesterol through your blood. LDLs carry a lot of cholesterol, leave behind fatty deposits on your artery walls, and contribute to heart disease. HDLs do the opposite. They clean the artery walls and remove extra cholesterol from the body, thus lowering the risk of heart disease. LDL is called "bad" cholesterol. (You can think of "L" for "lousy" cholesterol.) HDDL is called "good cholesterol (think of "H" for "healthy" cholesterol)> It is good to have low levels of LDL and high levels of HDL.

How does high cholesterol occur?

The main cause of high cholesterol is eating foods that are high in saturated fat or cholesterol. Other possible causes are:

- an inherited problem with the way your body processes cholesterol
- a disease that raises the cholesterol level (for example, diabetes mellitus, kidney disease, liver disease, or hypothyroidism).

What are the symptoms?

High cholesterol is a silent disease. There are no symptoms until problems have already developed, such as the chest pain of a heart attack or calf pain with walking, caused by narrowed or blocked arteries to the legs.

How is it diagnosed?

You will have blood test to check your cholesterol level. These lab tests usually measure your total cholesterol level, as well as the levels of low-density lipoprotein (LDL), high-density lipoprotein (HDL), and triglycerides.

You may need to fast before your blood test. This means you do not eat or drink anything except water for 12 hours before the test.

Your health care provider may give you a physical exam. He or she may ask about your diet and diseases and health problems in your family.

How is it treated?

The goal of most cholesterol treatment is to decrease the LDL in your blood and to raise the HDL. For every 1% decrease in cholesterol level, your risk of heart disease is reduced 2%.

A diet high in fiber and low in total fat, saturated fat, and cholesterol can help to lower cholesterol levels. For more information on changes you can make in your diet, see Health maintenance: Controlling Cholesterol.

You will need to lose weight if you are overweight. You should also exercise as recommended by your health care provider.

If diet and exercise are not enough to reduce your cholesterol level, your health care provider may prescribe drugs. Among the drugs commonly used are cholestyramine, niacin, gemfibrozil, atorvastatin, fluvastatin, lovastatin, pravastatin, and simvastatin. Each medicine has slightly different effects. Sometimes you will need to take more than one medicine to decrease your total cholesterol. Your health care provider will choose the best medicines for you.

How can I take care of myself and prevent high cholesterol?

In addition to changing your diet, you can help lower your cholesterol by the following:

- Get more exercise, especially aerobic exercise. Ask you health care provider about an exercise prescription. Start slowly to avoid injury. Exercise helps raise HDL levels, improve circulation, decrease body fat, and tone muscles.
- Don't smoke
- Maintain a normal weight.
- Have your cholesterol levels and weight checked by your health care provider.

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