

## Learning About LDL-Apheresis

FROM THE COMMITTEE ON CARDIOVASCULAR AND METABOLIC DISEASES™

You follow your doctor's instructions—take your cholesterol-lowering medications as prescribed and eat a heart-healthy diet—but still your low-density lipoprotein cholesterol (LDL-C) level (the amount of “bad” cholesterol in your blood) is too high. If so, you may be among the 1 in 500 people whose genes make them prone to chronic high cholesterol.

This condition is called *familial hypercholesterolemia (FH)*. For these patients, a therapy called *LDL-apheresis* has been shown to further reduce LDL-C levels and maintain these reductions over time. Read on to learn more about this therapy and how it may be able to help you reach your LDL-C goal and reduce your risk for heart disease.

### What is LDL-apheresis therapy and how does it work?

LDL-apheresis is a procedure that removes LDL-C from your blood. An intravenous (IV) line is inserted into each arm; blood is drawn from the body through one IV, filtered through a special machine that removes LDL particles, then returned to the body through the other IV (see Figure). The procedure usually takes 2 to 4 hours, but it may sometimes be repeated during a treatment session, depending on your doctor's instructions.

### What can I expect?

A single LDL-apheresis treatment will remove about 60% to 70% of harmful LDL-C from your blood. If you are like most qualified patients, you will require treatment every 2 weeks; this is because LDL-apheresis is a long-term treatment, not a cure, for FH. It is very important to recognize that LDL-apheresis therapy is a commitment, similar to taking medicine, that must become a part of your regular routine to maintain a healthy LDL-C level.

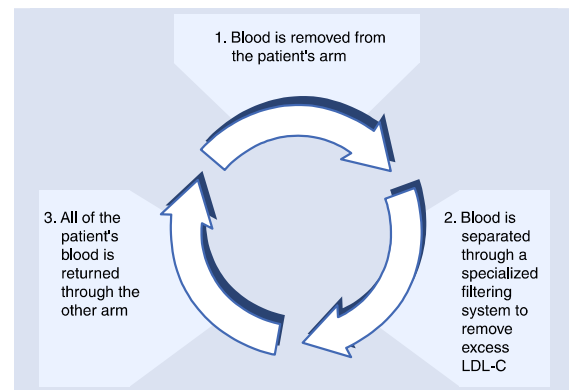
### Who qualifies?

The United States Food and Drug Administration (FDA) recommends the therapy in two types of FH patients whose LDL-C is high despite being on medical therapy for at least 6 months. These patients fall into the following categories:

- *Heterozygous* patients: LDL-C levels of 200 mg/dL or higher with a history of coronary heart disease (CHD)
- *Heterozygous* patients: LDL-C levels of 300 mg/dL or higher without CHD

Note: *Homozygous* patients whose LDL-C levels exceed 500 mg/dL are also candidates for this treatment.

### General Process of LDL-Apheresis



The LDL-apheresis process begins with the patient being hooked up to a special machine. An IV is inserted into each arm, and blood is drawn from the body. The blood is then separated through a specialized filtering system to remove excess LDL-C. All of the patient's blood is then returned through the other arm.

“ LDL-apheresis therapy is a long-term commitment that is used for patients who have very high cholesterol levels and who are unable to maintain normal cholesterol levels despite aggressive medical treatment. ”

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## Is LDL-apheresis covered by insurance?

Most insurance policies cover this procedure because it is FDA-approved. The treatment is also reimbursable through Medicare. To find out for sure, consult your insurance company.

## Is LDL-apheresis safe?

LDL-apheresis has been safely used to treat thousands of patients with FH for more than 20 years throughout Europe, Japan, and the United States. As with any drug or medical procedure, adverse reactions do occasionally occur. They include low blood pressure (hypotension), chills, fatigue, nausea or vomiting, and chest pain (angina); most, however, are easy to manage. To date, there have been no reported deaths associated with LDL-apheresis therapy.

## How can I find out if I'm eligible for LDL-apheresis?

Only your doctor can do this. To determine your eligibility, your doctor will review your medical history to ensure that all other options to lower your cholesterol have been exhausted. Your doctor will then order blood tests to determine your current LDL-C level as well as your levels of total cholesterol, high-density lipoprotein cholesterol (HDL-C; the "good" cholesterol), and triglycerides (fats in your blood). A number of diagnostic tests may also be done.

## Facts About Familial Hypercholesterolemia

- Left untreated, FH can lead to severe chest pain, heart attack (myocardial infarction), stroke, and even premature death.
- Some patients with FH experience a heart attack in their 20s and 30s, occasionally even earlier.
- In men with FH, heart attacks can occur in their 40s or 50s; 85% have experienced a heart attack by age 60.
- The incidence of heart attacks in women with FH is also increased, although these usually occur about a decade later than in men due to the protective hormones that benefit women until their postmenopausal years.
- The longer individuals live with extremely elevated LDL-C levels, the higher their risk of coronary artery disease—especially if the person has other cardiovascular risk factors (smoking, for example).
- Early diagnosis of and treatment for high LDL-C levels, as well as treatment for other cardiovascular risk factors, slow the development of CHD.
- Certain populations with Finnish, Lebanese, Ashkenazi Jewish, Afrikaner, or French Canadian origins have a higher prevalence of FH than does the general population.

Source: Familial hypercholesterolemia. Available at: <http://www.emedicine.com/med/topic1072.htm>. Accessed January 7, 2005.

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