

## Glossary

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### Heart Disease & Stroke Terms

**Artery:** A blood vessel that carries blood away from the heart to different parts of the body and delivers oxygen and nutrients to vital organs and tissues. Coronary arteries supply blood to the heart. Carotid arteries, of which there are two primary ones that ascend through the neck, carry blood to the brain.

**Atherogenic:** Something that initiates, increases, or accelerates atherosclerosis, such as an atherogenic diet.

**Atherosclerosis:** A multifactorial, multistep disease caused by plaque formation within the arteries that develops over many years. Arterial plaque can become inflamed, making it unstable and prone to rupture. Inflamed plaques can suddenly break open, causing a blood clot to form. The blood clot then can impede or completely block the flow of blood to the heart or brain, causing a heart attack or stroke. The majority of coronary events occur due to plaque rupture—not stenosis, or narrowing, of the arteries.

**Cardiovascular Disease (CVD):** A general term for diseases of the heart and blood vessels, which can lead to heart attack or stroke. CVD includes coronary heart disease, high blood pressure, congestive heart failure, stroke, rheumatic fever and rheumatic heart disease, and congenital cardiovascular defects. Heart disease and stroke are two of the three leading causes of death in the United States.

**Cholesterol:** A soft, waxy substance found among the fats in the bloodstream and in all the body's cells. It is a constituent of all animal fats and oils. Cholesterol is an important part of a

healthy body since it is used to form cell membranes, some hormones, and other needed tissues. High blood cholesterol, however, is a major risk factor for heart disease.

**Coronary Heart Disease (CHD):** A potentially fatal disease caused by the blockage of one or more coronary arteries, due to plaque build up, resulting in decreased blood supply to the heart and placing a patient at risk for a heart attack.

**C-Reactive Protein (CRP):** A protein biomarker of systemic inflammation. CRP indicates general inflammation within the body and is not specific to the arteries. CRP levels are measured through routine blood tests and may identify patients at risk for heart disease or stroke.

**Enzyme:** A protein that initiates chemical reactions of other substances without itself being destroyed or altered upon completion of the reactions.

**Fibrinogen:** A protein produced in the liver and converted into fibrin during blood clot creation that can be used as a general, non-specific marker of inflammation.

**Hemorrhagic Stroke:** An injury to brain cells caused by ruptured blood vessels in the brain.

**HDL (High-Density Lipoprotein Cholesterol):** The “good” cholesterol. HDL is the protective form of cholesterol. Studies suggest that high levels of HDL (more than 40 mg/dL in men and more than 50 mg/dL in women) reduce the risk of heart attack.

**Heart Attack:** Heart attacks occur when an unstable plaque in the artery walls rupture, causing a blood clot to form that reduces or totally blocks blood supply to the heart. The blockage stops the delivery of oxygen and nutrients to the heart, damaging or killing cells.

**Ischemic Stroke:** Ischemic stroke occurs when unstable plaques in the artery walls rupture, causing a blood clot to form that reduces or totally blocks blood supply to the brain. Nearly 90 percent of strokes are ischemic.

**Lipid:** A general term for fatty substances that are not soluble in food. While increased cholesterol has been strongly associated with coronary events, lipids have not been shown to be a predictor for stroke.

**LDL (Low-Density Lipoprotein Cholesterol):** The “bad” cholesterol. Too much LDL cholesterol can cause atherosclerosis and increase the risk of a heart attack.

**Lipoproteins:** Particles made up of fat (lipids) and protein. These are special carriers that transport cholesterol to and from cells.

**Lp-PLA<sub>2</sub> (Lipoprotein-Associated Phospholipase A<sub>2</sub>):** Lp-PLA<sub>2</sub> is an enzyme involved in the formation of vulnerable rupture-prone plaque within the arteries. The enzyme activates an inflammatory response within artery walls, promoting atherosclerosis. Studies have shown Lp-PLA<sub>2</sub> to be a cardiovascular-specific marker for heart disease and stroke, providing unique information useful for assessing risk. The PLAC<sup>®</sup> test from diaDexus measures the concentration of Lp-PLA<sub>2</sub> in the blood.

**Myocardial Infarction:** The medical term for heart attack.

**NCEP ATP III Guidelines:** The “Third Report of the NCEP Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults, Adult Treatment Panel (ATP) III,” was released in May 2001. The National Cholesterol Education Program (NCEP) is coordinated by the National Heart, Lung, and Blood Institute, part of the National Institutes of Health.

**PLAC<sup>®</sup> Test:** A simple blood test used to measure levels of Lp-PLA<sub>2</sub> and is cleared for marketing by the U.S. Food and Drug Administration as an aid in predicting the risk for coronary heart disease and ischemic stroke associated with atherosclerosis. The PLAC test, developed by diaDexus, Inc., South San Francisco, Calif., is available through laboratories nationwide, including LabCorp, Quest Diagnostics Incorporated, Mayo Medical Laboratories, ARUP Laboratories, and Berkeley HeartLab.

**Plaque:** A build up of fatty (and other) substances in the inner lining of artery walls.

**Stable Plaque:** Plaque that is typically quiescent (not characterized by inflammation), but may cause clinically significant stenosis, or narrowing, of an artery. Less than one-third of heart attacks are caused by stenosis.

**Statins:** A class of drugs used to lower cholesterol. Statins inhibit the liver enzyme hMG CoA reductase, which is used in the manufacture of cholesterol. Statins also have been shown to reduce Lp-PLA<sub>2</sub>.

**Stenosis:** Narrowing of an artery due to the progression of atherosclerotic disease. Less than one-fifth of heart attacks are caused by cholesterol-laden plaques that have narrowed the arteries

more than 70 percent. Rather, most heart attacks and strokes are the result of inflamed, unstable plaque that ruptures, forming a clot that blocks the blood supply to the heart or brain.

**Stroke:** Occurs when an artery supplying blood to the brain is blocked. Depending on the area of the brain affected, the damage may include impairment of mental function, muscle function, vision, sensation, or speech. A stroke can lead to permanent disability or death.

**Systolic Blood Pressure:** Measures pressure in the arteries when the heart contracts with each heartbeat, pumping blood throughout the body.

**Thrombus:** A blood clot in an artery that can impede or completely block the flow of blood to vital organs.

**Transient Ischemic Attack (TIA):** A temporary blockage in a blood vessel resulting in a short, stroke-like event. It is also called a “mini-stroke,” and is a stroke risk indicator.

**Unstable Plaque:** Also known as vulnerable or rupture-prone plaque, unstable plaque is characterized by active inflammation and elevated Lp-PLA<sub>2</sub>, but typically is not associated with significant impairment of blood flow due to stenosis. Unstable plaque is prone to rupture and can cause the formation of a blood clot that clogs the artery. About 80 percent of heart attacks are caused by the rupture of unstable plaque.

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