## Know Your Test: Lipid Profile – Dr. David Howdijam MD

Lipids are substances like cholesterol and triglycerides derived from fats. While lipids are necessary for the cells of the body, excess lipids deposit on the walls of the blood vessels and block the flow of blood. Lack of blood supply to vital organs like the heart and brain could result in serious complications like heart diseases and stroke. Due to sedentary lifestyle and unhealthy diet, increased cholesterol levels is a major health issue throughout the world.

**COMMON TEST**

Lipid Profile is a panel of blood tests that serves as an initial broad medical screening tool for abnormalities in lipids, such as cholesterol and triglycerides. It measures the concentrations of fats and cholesterol in the blood, and can be used to assess so-called "good cholesterol" versus "bad cholesterol" levels. Lipid Profile is commonly ordered as part of a routine health check-up in otherwise healthy people, in order to estimate their cardiovascular risk (of heart attack or stroke). The test is almost routinely performed in people admitted to hospital for suspected angina or suspected stroke. The results also help one understand one's risk for other diseases caused by blocked arteries. The test measures blood levels of total cholesterol, HDL cholesterol, LDL cholesterol, VLDL cholesterol and triglycerides.

**COMPONENTS OF LIPID PROFILE TEST**

1.  **CHOLESTEROL:** Cholesterol is a waxy substance than can be found in all parts of the body. The body uses cholesterol to help build cells and produce hormones. Too much cholesterol in the blood can build up inside the arteries, forming what is known as plaque. Large amounts of plaque increases one's risk of having heart attack or stroke.

2.  **HDL CHOLESTEROL:** The HDL (high-density lipoprotein) cholesterol helps remove fat from the body by binding with it in the bloodstream and carrying it back to the liver for disposal, preventing the fatty build-up and formation of plaque. Sometimes called the "good cholesterol", a high level of HDL cholesterol may lower one's risk of developing heart disease.

3.  **LDL CHOLESTEROL:** The LDL (low-density lipoprotein) cholesterol carries mostly fat and only a small amount of protein from the liver to other parts of the body. It can contribute to the formation of plaque build-up in the arteries. Sometimes called the "bad cholesterol", a high LDL cholesterol level may increase one's chances of developing heart disease.

4.  **VLDL CHOLESTEROL:** The VLDL (very low-density lipoprotein) contains very little protein. The main purpose of VLDL is to distribute the triglyceride produced by the liver. A high level of VLDL cholesterol level can cause build-up of cholesterol in the arteries and increases the risk of heart disease and stroke.

5.  **TRIGLYCERIDES:** Triglycerides are a class of fat found in the bloodstream. The bulk of one's fat tissue is in the form of triglycerides. Triglycerides are used by the body to store energy and give energy to the muscles. Only small amounts are found in the blood. Having a high

triglyceride level along with a high LDL cholesterol may increase one's chances of having heart disease more than having only a high LDL cholesterol level.

## HOW IS THE TEST PERFORMED?

A blood sample is needed. The doctor may order only a cholesterol level as the first test before a lipid profile test. Other blood tests, such as C-reactive protein (CRP) are also added to the profile in some laboratories.

## PREPARATION FOR THE TEST

As a standard practice, overnight fasting (9-12 hours) is required before one's blood is drawn for a lipid profile. However, if one is having only a cholesterol test, one may eat beforehand.

## HOW WILL THE TEST FEEL?

There is a slight pain when the needle is inserted to draw blood. Some people feel only a prick or stinging sensation.

## NORMAL RESULTS

The ideal values depend on whether one has heart disease, diabetes, or other risk factors. Normal range values may vary slightly among different laboratories. One should talk to the doctor about the meaning of the specific test results.

## ABNORMAL RESULTS

Abnormal values may be a sign that one is at increased risk for heart disease, stroke, and other problems caused by blocked arteries. If the cholesterol is too high, one may need treatment to lower the cholesterol levels. This may include medicine and lifestyle changes.

## WARNING SIGNS AND RISK FACTORS

High cholesterol usually has no symptoms. A blood test is the only way to detect it. Risk factors include obesity, poor diet, physical inactivity, smoking, high blood pressure, diabetes and family history of heart diseases.

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