

## Cholesterol Tests

Cholesterol is a natural fat substance that is formed in the liver and other cells of the body. Cholesterol has very important functions in the body including the production of hormones (estrogen and progesterone) and the construction of cell walls. Cholesterol is carried to all parts of the body by attaching to a protein in the blood. These proteins are called lipoproteins.

There are 3 (three) main types of lipoproteins: HDL, LDL and VLDL. When you eat a meal, dietary fat is broken into triglycerides. Dietary carbohydrates are broken into sugars. Excess sugar are not used by the cells go to the liver where they are converted into triglycerides and stored as fat. Triglycerides are carried by the VLDLs (very low density lipoprotein). Enzymes in the body break down VLDL to LDL (low density lipoprotein) which is the “bad” cholesterol. Too much LDL can attach to the walls of arteries in organs and block the necessary blood flow, causing organ damage. This plaque hardens with time creating called arteriosclerosis or hardening of the arteries. HDL (high density lipoprotein) cholesterol is the “good” cholesterol. It carries cholesterol back to the liver where cholesterol is broken down and eliminated from the body. Having a low LDL and high HDL profile is healthy. In patients with pre-existing heart disease an LDL lower than 70 is desired. An HDL greater than 50 in a man and greater than 60 in a women is desired.

C-reactive protein (CRP) is a test that measures inflammation. It is a non-specific test elevated in patients with arthritis, collagen diseases and any active infections. An elevated CRP combined with a family history of heart disease and other abnormal lipids may confer an increased risk of heart disease.

Homocysteine is an amino acid that if elevated in the blood can increase the risk of heart attacks and strokes.

There are 7 (seven) different subclasses of LDL. The smaller, denser LDLs are more likely to cause heart disease than the larger LDL particles. Lp(a) is called lipoprotein little a. This is an LDL particle that has an extra protein attached to it. Lp(a) can promote clothing around an atherosclerotic plaque and increase the risk of heart attacks. This is an inherited trait.