



What Do My Cholesterol Numbers Mean?  
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A common question we are asked as cardiologist is- “What do my cholesterol numbers mean? Which is the good and which is the bad? And what does that mean?”

When you get your cholesterol checked, you will be given several numbers

- Total Cholesterol
- LDL (low-density lipoprotein)—Bad Cholesterol
- HDL (high-density lipoprotein)—Good Cholesterol
- VLDL (very low-density lipoprotein)
- TG (triglycerides)
- Ratios- Total Cholesterol/HDL and LDL/HDL

It is best to check your fasting cholesterol. You should have nothing to eat or drink for 8-12 hours before your blood test. Additionally, you should eat your normal diet for several days before, do not fast or eat a very fatty diet, it can affect the numbers.

### *Cholesterol*

Not all cholesterol is bad. In fact, cholesterol is used to form cell membranes and is an essential part of your body, however, high levels can lead to atherosclerosis. Cholesterol is transported in and out of cells by lipoproteins. Most of the cholesterol is obtained by dietary means. Your liver also produces cholesterol. It usually produces enough for your body, so there is no need to consume it.

### *LDL- BAD Cholesterol*

LDL molecules are the major transporters of cholesterol in the blood. High levels of LDL are associated with cardiac disease and stroke. LDL can be decreased by dietary measure, medications and exercise.

### *HDL- Good Cholesterol*

HDL molecules transport cholesterol back to the liver and other organs for excretion or production of hormones. Having high levels of HDL is protective against cardiac disease, and low levels put someone at risk for cardiac disease. You can increase your HDL by exercising. Some of the medications may raise the levels, but it's not clear yet if artificially raising your levels by medication is protective in the same way that exercise is.

*National Cholesterol Education Program Guidelines for Cholesterol levels* (remember, if you have known heart disease or diabetes or other risk factors, these ranges don't apply. Discuss your levels with your physician)

- Total Cholesterol
  - Desirable <200
  - Borderline High 200-239
  - High >240
- LDL
  - Desirable <130
  - Borderline High 130-159
  - High >160
  - \*\* should be <100 for people with heart disease or diabetes, ideally <70
- HDL
  - Desirable >50 for women
  - Desirable >40 for men
  - Borderline Low 40-49
  - Low <40
- Triglycerides
  - Desirable <200
  - Borderline High 200-399
  - High >400
- Total Cholesterol/HDL Ratio
  - Good- <4.2
  - Warning >4.3
- LDL/HDL Ratio

- Good <2.5
- Warning >2.6

*Diet*- Low-cholesterol, trans fat free, low-saturated fat diet. Learn to read your labels! Limit your daily intake of cholesterol to <200 milligrams. Work with your physician or dietitian to create the appropriate diet for you.

*Trans-Fatty acids* (partially hydrogenated oils)- They raise your LDL cholesterol and lower your HDL levels. They can increase your risk of heart disease, strokes and type 2 diabetes. Trans fats should make up less than 1% of your daily calories.

#### *How do Statins Work?*

About 25% of the total daily cholesterol production occurs in the liver. A step in the synthesis involves an enzyme called HMG-CoA Reductase. Statins inhibit this enzyme and help block the production of cholesterol. They are also potent vascular anti-inflammatory agents. Statins are the most commonly used medications for elevated cholesterols. There are several on the market. Work with your physician to choose the most appropriate medication for you.

#### *Other medications for Cholesterol*

- Bile acid binders- help rid the body of cholesterol
- Niacin- can help increase your HDL
- Fibrates- can help lower your triglycerides

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