

# WHAT IS CHOLESTEROL?

Pure cholesterol is an odorless, white waxy-powdery substance. You cannot taste it or see it in the foods you eat. Cholesterol is found in all foods of animal origin and is part of every animal cell. Your body uses cholesterol to make essential body substances such as cell walls and hormones, as well as for various other functions. Even if you didn't eat any cholesterol, your liver would manufacture enough for your body's needs. Cholesterol is like other fatlike substances in that it will not mix with water, therefore, to carry cholesterol and fat ("lipid") in the blood, the body wraps them in protein packages. This combination is called a "lipoprotein". Blood cholesterol is found in all the major lipoproteins, including the low density lipoproteins (LDLs) and the high density lipoproteins (HDLs).

- **TRIGLYCERIDES:** Another kind of lipid (blood fat). It is the main type of lipid found in the fat tissue of the body and also the main type of fat found in foods. Elevated triglyceride levels can be reduced by weight loss, increased physical activity, and reduced intake of saturated fats.
- **GLUCOSE:** High blood sugar or glucose could be indicative of diabetes. Inability to maintain normal blood level for glucose could be an indication of insulin deficiency.
- **HDL...THE "GOOD" CHOLESTEROL:** HDLs are the high density lipoproteins. HDLs contain the greatest amounts of protein and small amount of cholesterol. They are believed to take cholesterol away from cells in the artery wall and transport it back to the liver for reprocessing or removal from the body. Researchers have noted that persons with higher levels of HDL have less heart disease. Thus, HDLs have become known as the "good" cholesterol.
- **LDL...THE "BAD" CHOLESTEROL:** LDLs are the low density lipoproteins that contain the greatest amounts of cholesterol and may be responsible for depositing cholesterol in the artery walls. For that reason they are sometimes known as the "bad" cholesterol.

## GUIDELINES

### TOTAL CHOLESTEROL LEVELS:

< 200 mg/dl	Desirable Blood Cholesterol
200 - 239 mg/dl	Borderline-High Cholesterol
>240 mg/dl	High Risk

### LDL "BAD" CHOLESTEROL LEVELS\*:

< 130mg/dl*	Desirable Blood Cholesterol
130 - 159 mg/dl	Borderline-High Cholesterol
> 160 mg/dl	High Risk

\*<100 is optimal. <130 for general population without any other coronary risks.

### HDL "GOOD" CHOLESTEROL LEVELS\*:

> 40 mg/dl*	Normal (if cholesterol < 200)
< 40 mg/dl	High Risk

\*Higher levels needed if total cholesterol > 200

### RATIO: TOTAL CHOLESTEROL TO HDL:

< 4.0	Excellent - Decreased Risk
4.0 - 5.0	Acceptable
5.0 - 6.0	Moderate Risk
> 6.0	High Risk

### TRIGLYCERIDES:

< 150 mg/dl	Desirable
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### GLUCOSE:

70 - 100	Normal
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### VLDL:

<30	Normal
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### ALT Liver Function:

10 - 50 U/L	Normal
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### AST Liver Function:

10-40 U/L	Normal
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## HEALTHY SUBSTITUTIONS

### INSTEAD OF:

Cooking with animal fats  
 Frying  
 A red meat main dish  
 Lean ground beef  
 Bacon  
 A fast-food burger  
 Buttering vegetables  
 Sour cream on baked potato  
 Cream or butter sauces  
 Nondairy coffee creamer  
 Whole milk  
 Chocolate

### TRY:

cooking with vegetable oils such as sunflower, olive or peanut oils  
 Baking, broiling or steaming  
 Pasta or rice with a little meat, skinless white meat, poultry or fish  
 Lean, trimmed round steak, white poultry without skin or fish  
 Canadian Bacon  
 The salad bar  
 Vegetables with herbs and lemon, lime or orange juice  
 Low fat yogurt or cottage cheese  
 Sauces using wine or low - fat broth  
 Non-fat milk  
 Skim milk  
 Cocoa