Understanding Your The VAP® Cholesterol Test Cholesterol Test Results

Your VAP® Cholesterol Test is a comprehensive lipid panel that improves upon the 30-year-old routine lipid panel. It does so by offering a direct-measured LDL that is more accurate than the routine lipid panel's calculated LDL. The VAP Cholesterol Test also provides other risk factors that the routine lipid panel cannot identify. These risk factors can help your physician in assessing your risk of heart disease, and provides additional information that can assist with treatment considerations.

The following definitions will help you understand your lipids and their measurements.

Total LDL Cholesterol	LDL is the "bad" cholesterol and the primary cause of heart disease. It is the primary cholesterol target in heart disease risk management.
HDL Cholesterol	HDL is the protective or "good" cholesterol. Low levels of HDL are related to increased risk for coronary heart disease. Low HDL is an independent risk factor for heart disease.
VLDL Cholesterol	VLDL is the main carrier for Triglycerides and, if elevated, can be an independent risk factor for heart disease.
Total Cholesterol	Total Cholesterol is the amount of cholesterol circulating throughout your body.
Triglycerides	Triglycerides are energy-rich molecules needed for normal functions throughout the body. Elevated levels are associated with diabetes and cardiovascular disease.
Non-HDL Cholesterol	Non-HDL Cholesterol is LDL + VLDL cholesterol. It has been shown to be a better predictor of heart disease risk than LDL alone.
Total apoB_{100}	Total apoB_{100} combines all of the "bad" risk factors into a single value.
Lp(a)	The "Heart Attack" cholesterol, Lp(a), is a strongly inherited risk factor for heart disease. This does not respond to traditional LDL-lowering drugs.
IDL Cholesterol	IDL is a strongly inherited independent risk factor for heart disease and is elevated in patients with a family history of diabetes.
Real LDL Cholesterol LDL-R	The Real LDL Cholesterol that circulates in your body. It is a component of Total LDL Cholesterol: Total LDL = Lp(a) + IDL + Real LDL.
LDL Cholesterol Size Pattern	LDL exists in a range of sizes from small, dense "Pattern B" to large, buoyant "Pattern A." The smaller LDL cholesterol sizes are associated with an increased risk for heart disease. Small, dense LDL is prevalent in patients with insulin resistance or diabetes.
Metabolic Syndrome	Metabolic Syndrome is characterized by the combination of several metabolic risk factors, including 1) elevated Triglycerides, 2) low HDL, and 3) small, dense Pattern B LDL that increase the overall risk for heart disease.
HDL_2 / HDL_3 Cholesterol	HDL cholesterol sub-fractions are also used for risk prediction. HDL_2 is large and buoyant and the most protective form of HDL cholesterol. Low HDL_2 is a risk factor for heart disease in patients with normal LDL levels. HDL_3 is small and dense and the least protective form of HDL.
Total apoAI	Total apoAI combines all of the "good" particles that are heart protective into a single value.
apoB_{100}/apoAI Ratio	The apoB/apoAI ratio is a measure of heart disease risk and in some studies has been shown to be the best predictor of risk. In general, the lower apoB/apoAI value, the lower your risk for heart disease.
$VLDL_3$ Cholesterol	$VLDL_3$ is the most dense VLDL sub-fraction and a greater risk factor for heart disease than both $VLDL_1$ and $VLDL_2$.

The Most Comprehensive Cholesterol Test

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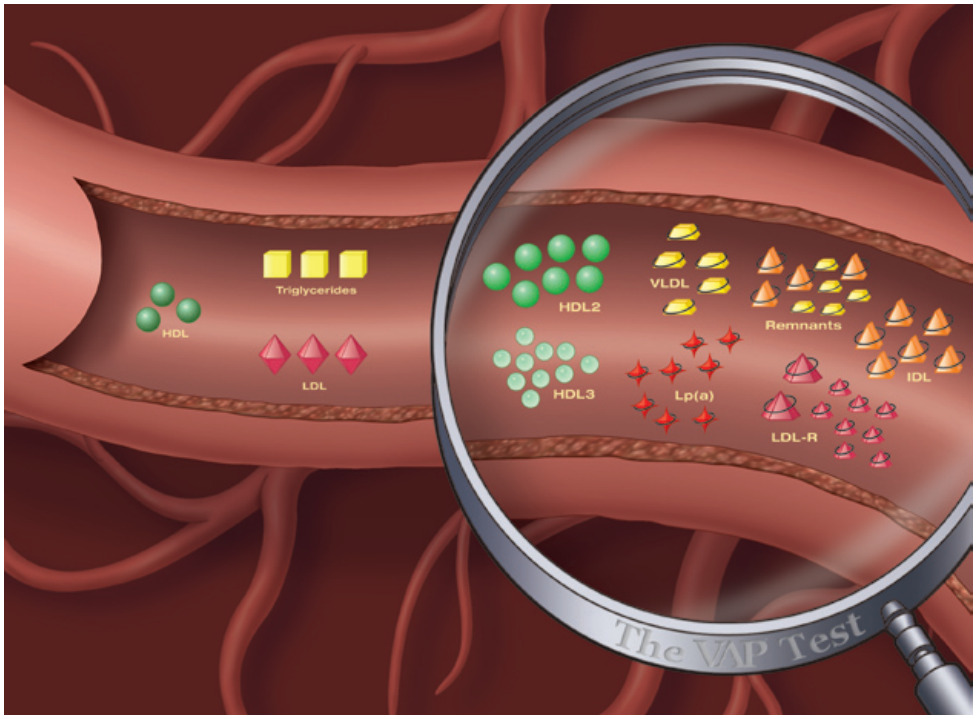
TAKE A CLOSER LOOK AT YOUR CHOLESTEROL:



The standard lipid panel gives you an incomplete picture:

- HDL
- LDL = Estimated
- Triglycerides

The VAP Cholesterol Test gives you the most comprehensive view:

- HDL_2 = Larger, most protective
- HDL_3 = Smaller, least protective
- VLDL = Triglyceride rich lipids
- apoB = Total atherogenic count
- Lp(a) = 10x more atherogenic
- IDL = 2x more atherogenic
- LDL-R = Real LDL
  - Pattern A = Large, buoyant, least dangerous
  - Pattern B = Small, dense, most dangerous
- Non-HDL = LDL-R + IDL + Lp(a) + VLDL

More Information → Better Identification = Better Treatment

Diagnosis	Therapeutic Lifestyle Changes	Prescription Drugs
Elevated LDL-R	Low Fat Diet, Exercise	Statins, Cholesterol Absorption Innhibitor, Resin
Elevated Lp(a)	No Direct Effect, Control Other Coronary Heart Risk Factors (CHD)	Niacin
Elevated IDL	Low Carbohydrate Diet, Exercise	Statin + Niacin, Fibrate
Small Dense LDL, Pattern B, A/B	Low Carbohydrate Diet, Exercise	Omega 3-FA, Niacin, Fibrate, Some Statins*
Remnant Lipoproteins	Low Carbohydrate Diet, Exercise	Statin + Niacin, Statin + Fibrate, Statin + Omega 3-FA
Low HDL_2/apoAI	Aerobic Exercise	Niacin, Fibrates, Omega 3-FA, Some Statins*
VLDL and Elevated Triglycerides	Low Carbohydrate Diet, Diet, Exercise	Fibrates, Niacin, Omega 3-FA, Some Statins*
Metabolic Syndrome, Low Carb Diet	Low Carbohydrate Diet, Increase Good Fats in Diet, Exercise	Omega 3-FA, Niacin, Fibrates

Theraputic Lifestyle Changes (TLC)

Smoking Cessation, Weight Loss, Exercise

Non-Drug Treatment Options

Omega 3-Fatty Acids (Fish Oil with EPA/DHA), Red Yeast Rice, Niacin, Flaxseed Oil, Dietary Fiber, Plant Sterols

Atherotech does not attempt to mandate or advise treatment for individual patients. This document is intended to illustrate the array of treatment options available as a result of examining the detailed lipid analysis provided by the VAP Test.

*Not all statins exert equal effect on some lipoprotein classes. Please consult with your healthcare provider or the package insert for a more detailed explanation.