

LPP® vs Cholesterol 101

What is LPP®?

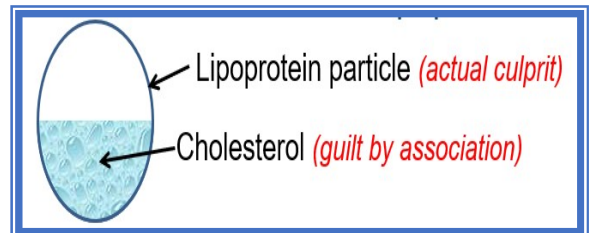
LPP® stands for Lipoprotein Particle Profile, which is a specialized blood test that helps you determine your risk of heart disease. It is a replacement for the outdated, and often misleading cholesterol test. LPP® measures the various lipoproteins in your blood, which is important because lipoproteins are what cause heart attacks and strokes, not cholesterol. But not all lipoproteins are equal – some are helpful, and some are incredibly dangerous. The LPP® will tell you which ones you have.

Cholesterol is the “spackle” that fixes lipoprotein damage.

Cholesterol is a substance in our cells that serves several functions – building cell walls, making sex hormones, repairing arteries, for example. The latter of these functions is where cholesterol gets a bad reputation, albeit unfairly. Cholesterol is a sticky substance that is used to “patch” the walls of an artery that has been damaged – sort of like spackling the wall in your house when the sheetrock gets a hole in it. So the real problem is the damage to the artery (the hole in the wall), not the cholesterol (the “spackle”) needed to patch it. Cholesterol is simply the biological “spackle” or “glue” or “paste” or whatever analogy suits you. The cholesterol forms a scab on the inside of the blood vessel. So, often where there is a lot of cholesterol localized in an artery, there is a lot of damage. This can eventually cause blockages (atherosclerosis), or become hard (arteriosclerosis), or form a blood clot (thrombosis).

Lipoproteins cause the trouble, but cholesterol gets blamed.

Lipoproteins are small lipid spheres (think of a hollow rubber ball) that carry cholesterol in the body. Really small lipoproteins act like beebees to the arterial wall, scratching it and causing damage. Then cholesterol is sent in to patch up this damage. The underlying problem is the **damage to the artery**, caused by lipoproteins (and other things like high blood sugar, smoking, inflammation, etc). The vascular damage (the cause) leads to cholesterol build up (the symptom). Cholesterol is not damaging the artery. It is actually trying to repair it.



Cholesterol tests are completely misleading.

Consider this startling statistic: 50% who have a heart attack have normal cholesterol.^{1,2,3} That means **HALF** of the cholesterol tests done in medicine will not tell whether or not you are at risk of a heart attack, which is exactly what they *allegedly* supposed to do. This is why the lipoprotein particle profile test should replace standard cholesterol tests.

How does LPP® differ from cholesterol tests?

LPP® measures your lipoproteins, not your cholesterol, and it tells you the whole range of lipoproteins found in your blood. It is quite comprehensive but in a nutshell, LPP® tells you if you have the dangerous type or healthy type. There are very unique types of lipoproteins that are particularly dangerous, all of which are included in the LPP® panel. Cholesterol testing isn't even close.

“It is best to have a blood test called a lipoprotein profile.”

National Institute of Health⁴

Then why is cholesterol testing so popular?

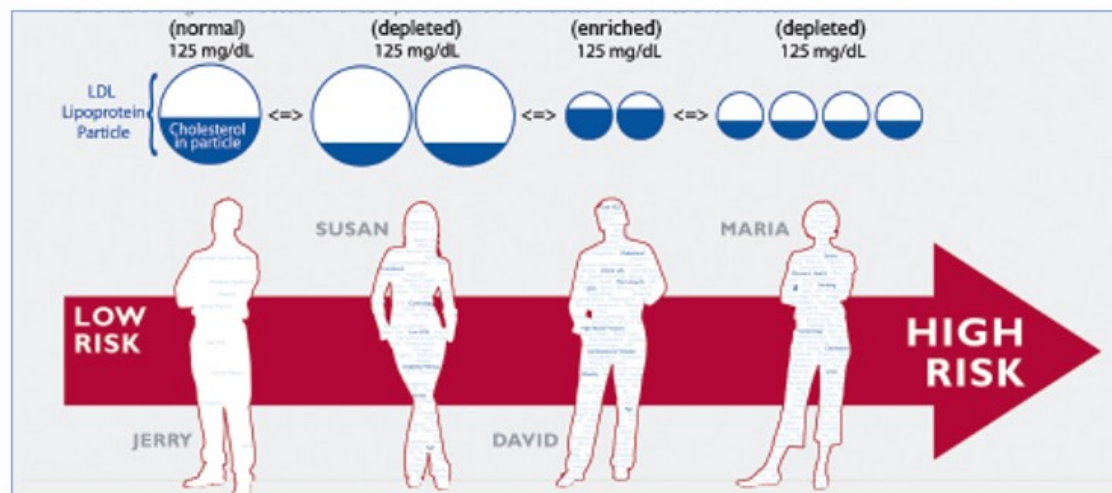
The fact that lipoproteins (versus the cholesterol they contain) are what actually cause atherosclerosis has been well established decades ago. But cardiovascular disease (CVD) has been framed a “cholesterol issue” simply because there was no commercial technology for measuring lipoprotein particles until recently. Technology for measuring cholesterol has been widely available for years, so “cholesterol” became synonymous with CVD, when really it is only a surrogate marker. But now that lipoprotein measuring technology is widely available and the cost is comparable to standard cholesterol testing, cholesterol tests are considered very outdated at best, and misleading at worst.



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LPP[®] vs Cholesterol 101

Jerry, Susan, David and Maria all have the exact same cholesterol value of 125 mg/dL. If they all did routine cholesterol testing, they would never know their true risk.



Jerry has an excellent LPP[®] & low risk of a heart attack.

Maria has a poor LPP[®] & high risk of a heart

Maria would never know this unless she had an LPP[®] test done instead of a cholesterol test.

REFERENCES

- 1) Stamler J et al. Is relationship between serum cholesterol and risk of premature death from coronary heart disease continuous and graded? Findings in 356,222 primary screenings of the Multiple Risk Factor Intervention Trial (MRFIT). *JAMA* 1986;256:2823-2828.
- 2) Sachdeva A et al. Lipid levels in patients hospitalized with coronary artery disease: An analysis of 136,905 hospitalizations in Get With The Guidelines. *Am Heart J* 2009;157:111-117.
- 3) Kannel W et al. Efficacy of lipid profiles in prediction of coronary disease. *Am Heart J* 1992;124:768-774.
- 4) NIH Publication 05-3290; US Department of Health and Human Services, National Institutes of Health; National Heart, Lung, and Blood Institute; 2005



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