

prescription drugs like Avandia, and they put themselves at serious risk—not only for the devastating complications of diabetes, but also for the insidious side effects of a drug designed to treat it.

Be smart about your medications, and know what steps you can take to maintain the best possible health (including regular exercise and a

healthy diet). Like most quick fixes, those promised by medication are usually neither quick nor a real fix. ■

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## VAP: THE NEW CHOLESTEROL TEST YOU MUST HAVE

One of my nurses, Glenda, approached me during a recent day at the clinic to ask for some advice regarding her cholesterol. Her family doctor had looked at her most recent blood work and wanted to give her a prescription for Lipitor.

Glenda's total cholesterol was 271, and her LDL was 165—levels considered “very high” by standard measures. However, rather than accept the prescription for Lipitor, I suggested that she first take a new, more comprehensive lipid test to determine if her cholesterol levels truly warranted taking a statin drug. It's called the VAP test—short for vertical auto profile. It was developed in 1999 by Dr. Jere Segrest, of the University of Alabama at Birmingham Medical Center.

I also told Glenda that what you hear about cholesterol in advertising and the media—and sometimes even from your doctor—is generally nonsense. **The truth is, half of all people who die from heart attacks have normal cholesterol levels.**

The standard lipid profile test is woefully inadequate when it comes to identifying how cholesterol affects your disease risk. Merely testing for the amount of total cholesterol, high-density lipoprotein (HDL), and low-density lipoprotein (LDL) doesn't tell you enough. In fact, monitoring at this level is probably only about 40 percent accurate in predicting risk for heart attack. The VAP test, however, is able to break down the most dangerous fractions of cholesterol and provide a more accurate picture of what may or may not be a problem.

### Cholesterol's Multiple Personalities

Here are just a few of the key readings the VAP test gives you that the current test doesn't:

#### Your LDL Components

High levels of LDL are thought to increase the risk of heart attack. But LDL, up to a certain level, is really a good guy—a sheep slapped with a wolf's reputation. Your most common type of cholesterol is LDL—a fatty substance produced in the liver and wrapped in a protein coating that allows it to

circulate in the bloodstream. It performs absolutely essential services in the body as a raw material. It's converted by enzymes into vitamin D, steroid hormones (estrogen, progesterone, testosterone, and cortisol), and the bile acids that are critical for proper digestion.

LDL is dangerous when it becomes oxidized or is overly present in the form of a small dense particle—rather than its less dangerous form as a large, fluffy, and more “buoyant” particle. The VAP test identifies how much of each kind of LDL you have.

#### Your Lp(a) Level

The VAP test also monitors a subtype of LDL called Lp(a), which I consider to be the most dangerous form of cholesterol. It's highly inflammatory and thrombotic, which means it causes blood clots. When it increases abnormally in the bloodstream, it can increase your risk of heart attack up to 25 times.

One of the evils of our medical system is that currently you can only get an Lp(a) test if you pay for it out of pocket. Insurance companies don't cover Lp(a) testing because there aren't any drugs to reduce high Lp(a) if it's found. (However, niacin (vitamin B3) (500 mg), high doses of vitamin C (1–2 g), nattokinase (50–100 mg), and fish oil (1–2 g) will neutralize the toxic effects of high Lp(a).) I've seen many patients with cardiovascular disease who have normal cholesterol levels but high Lp(a). The primary risk factor for high Lp(a) is genetic. People with a bad or malignant family history of cardiovascular disease should have their Lp(a) level tested.

#### Your HDL Subtypes

A high level of HDL—the so-called good cholesterol—is generally associated with protection against heart attack. However, we now know that HDL can be further divided into subtypes HDL1 and HDL2. Both reduce cardiovascular risk, but HDL2 is far superior and provides more protection than HDL1. The VAP test measures both.

Cardiologists have much more to learn about HDL fractions, and it may turn out that some HDL can

be just as harmful, perhaps even more so, than oxidized LDL. We are hearing, for instance, that there are some types of HDL that are pro-inflammatory. This is an area in which we are still learning—and need to learn more yet.

### IDL (Intermediate Density Lipoproteins)

The VAP test measures IDL, a type of blood fat that represents an inherited independent risk factor for heart disease. I had never heard about this substance until recently, proving that even old watchdogs like me can learn new tricks.

### Triglyceride Fractions

Previous blood tests gave you a total triglyceride level, and anything above 180 was considered a risk. Triglycerides are fat globules in the bloodstream. In a concentrated form, they create the fatty “love handles” around your midsection.

As with LDL and HDL, there are different types of triglycerides, and the VAP test measures the levels of each. The one to be most concerned about is VLDL3, which is the most inflammatory triglyceride. It's a prime indicator for the progression of coronary artery disease, insulin resistance, and type II diabetes.

### VAP Saved Glenda From Statins

For the most part, the VAP test gave Glenda passing marks. Her LDL was mostly of the large, desirable particles. Her HDL fractions strongly favored the risk-reducing type. And her IDL level was low, in the range where you want it.

However, the test showed her Lp(a) to be somewhat elevated. Her Lp(a) came in at 15 (at the particular lab where she was tested, a score of less than 10 is considered to be in the desired range). In reviewing her results, I felt the only thing that needed attention was Lp(a). So I recommended she take a natural approach with some niacin, nattokinase, and fish oil daily. Had Glenda taken a statin drug after her standard lipid test, it could have done her more harm than good. Statins not only deplete the body of CoQ10, they may also drive up Lp(a).

As another example of what we can learn from the VAP test, let's look at a hypothetical 50-year-old

## Sinatra's Healthy Zone: Inflammatory Mediators and VAP Values

Here are the VAP and other inflammatory values that I regard as healthy. Some labs may have different reference range values depending on their testing methods.

Lipid Category	Healthy Value
CRP	<0.8 mg/dL (8 mg/L)
Ferritin (iron)	Females <80 µg/L
	Males <90 µg/L
Fibrinogen	180–350 mg/dL
Homocysteine	<9 µmol/L
Total cholesterol	125–200 mg/dL
LDL	70–130 mg/dL
VLDL3 (triglycerides)	<10 mg/dL
IDL	<20 mg/dL
Lp(a)	<10 mg/dL
HDL1	>15 mg/dL
HDL2	>25 mg/dL

male with a history of heart disease. If his results showed a high level of VLDL3 (the inflammatory triglyceride) or small, dense LDL particles, his case *would* warrant prescribing a potent anti-inflammatory medication such as a statin. Here, the use of a statin would be justified based on a threatening inflammatory cholesterol picture and a history of cardiovascular disease. The decision to go with a statin would be based on specific risk factors, not just on a vague count of total cholesterol.

These examples clearly show the benefits that the VAP test provides. I urge you to take advantage of it as soon as you possibly can. As this test becomes more widely used, I hope the added information will temper the mentality of ill-informed doctors who are quick to prescribe a statin at the first sign of a problem.

**The bottom line:** When your doctor talks about getting your cholesterol checked, insist on the VAP test. Medicare and most insurance plans now cover this test. For people who don't have insurance, the cost is relatively affordable when you consider the potential health benefits it offers. I've seen current prices ranging from \$158 to \$185. ■

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