

Do You Know How to Count?

If you have type 2 diabetes, you probably know you're at high risk for cardiovascular disease (CVD)—and that you and your doctor must keep close tabs on your cholesterol count. But are you tracking the best number?

“There are certain risk factors for cardiovascular disease that are risk factors for developing diabetes,” according to Ronald B. Goldberg, MD, professor of medicine and director of the Lipid Disorders Unit at the University of Miami Miller School of Medicine. These include obesity, high blood sugar, high blood pressure, and abnormal levels of cholesterol and other blood fats.

This combination has been called metabolic syndrome and syndrome X. But Dr. Goldberg says cardiometabolic risk (CMR) better describes the CVD/diabetes relationship.

Dr. Goldberg was part of a panel asked by the American Diabetes Association and the American College of Cardiology Foundation to recommend ways to help people with CMR get and keep their cholesterol under control. Losing weight, eating sensibly, being physically active, and not smoking can help, but lowering cholesterol is so urgent for people with diabetes that taking a statin drug



When it comes to cholesterol, what number matters?

is often the first line of defense.

LDL (low-density lipoprotein, or “bad”) cholesterol, Dr. Goldberg explains, has been the measure doctors use to decide whether to prescribe statins and to monitor how well those drugs are working. The National

Institutes of Health’s National Cholesterol Education Program (NCEP) recommends treatment with statins for people whose LDL is 130 mg/dL or higher. The goal is to get LDL down to 100 for people at risk for CVD. The LDL target is even lower for people at very high risk, including those with diabetes who have already had a heart attack or stroke.

“For patients with diabetes and cardiovascular disease, we aim for an LDL goal of less than 70,” says Om P. Ganda, MD, director of the Lipid Clinic at the Joslin Diabetes Center in Boston. The question is whether that lower goal should be used for people who don’t yet have CVD but who have diabetes and other CMR indicators. “The lower the better,” Dr. Ganda says. “If we can go below 100, that will be even better for people with type 2 diabetes.”

But, says Dr. Goldberg, “In type 2 diabetes particularly, and in individuals with increased cardiometabolic risk, there may be better measurements for assessing who needs treatment and how aggressive treatment should be.”


One measurement that seems more accurate yet less conventional tests levels of apoB (apolipoprotein B). But this is often not covered by insurance.

More simple, though, is a measurement called non-HDL cholesterol. It’s the total cholesterol minus HDL (high-density lipoprotein, or “good”) cholesterol.

When blood cholesterol is measured, the lab report contains numbers for LDL, HDL, and total cholesterol. But the total is made up of more than LDL plus HDL. “The rest,” Dr. Goldberg explains, “is the cholesterol that’s in triglyceride-rich particles—VLDL, or very low-density lipoprotein.” VLDL is another “bad” cholesterol, so calculating non-HDL is an easy way to differentiate the bad from the good.

Both the expert panel and the NCEP say non-HDL cholesterol should be 30 points higher than the LDL goal. For example, for very high-risk patients, the LDL goal is 70, so non-HDL should be 100.

Labs don’t report non-HDL, which Dr. Goldberg finds frustrating. “It’s very simple. If labs would do the calculation automatically, the number would appear and people would take more notice.”

Unless and until that happens, it’s up to your doctor to do the math, and up to you to ask about it. 

—Barbara Ravage



This article has been reviewed by the **American Heart Association**. For more information about heart disease or the link between diabetes and heart disease, visit www.americanheart.org/diabetes or call **800.AHA.USA1 (800.242.8721)**.