

Triglyceride to HDL Ratio

By Jonny Bowden, PhD, CNS

To assess your health and your risk for heart disease and diabetes, the ratio of triglycerides to HDL is one of the most important numbers you can know.

Here's how to figure out your "number" (ratio) and here's why it matters.

Computing your "number"

Look at any standard blood test you've had recently and pick out two numbers: Triglycerides and HDL cholesterol. Both of them will be on the test, guaranteed. The triglyceride number will always be higher (OK, 99.999999% of the time). To find the ratio, simply divide triglycerides by HDL. Bam. You've got your ratio. And in a minute, I'll tell you what it means.

In case the very thought of math makes your eyes glaze over even if it's simple division, let's do a few examples:

- Let's say your triglycerides are 100 and your HDL is 50. Your ratio is 2; (100 divided by 50).
- Say your triglycerides are 150 and your HDL is still 50. The ratio is now 3; (150 divided by 50)

The triglyceride to HDL ratio is an excellent indicator of heart health. It's also an excellent marker for insulin resistance (or it's opposite, insulin sensitivity). You

want your triglyceride to HDL ratio to be low—2 or under is wonderful. When it's high, it's cause for concern, or, even better, action.

The triglyceride to HDL ratio—something integrative physicians and health professionals have been talking about for years—recently got a big boost in public awareness. Recently, the Wall Street Journal published a full page article (“Children on Track for a Heart Attack”) reporting on a study from the Cincinnati Children’s Hospital Medical Center that looked at nearly 900 children and young adults. The study, [published in the journal Pediatrics](#) found that **higher the ratio of triglycerides to HDL, the greater the likelihood that a child would have stiff and damaged arteries.**

“Stiff vessels make your heart work harder. (That’s just not) good for you”, said Elaine Urbina, head of preventive cardiology at Cincinnati Children’s, and lead author of the study

Indeed. **The triglycerides to HDL ratio is also a great indicator of insulin resistance, which is a major factor in obesity, heart disease, diabetes and Alzheimer’s.** In one study, a ratio of three or greater [predicted insulin resistance with great reliability](#), while in [another classic study from Harvard researchers](#), those with a **high ratio were 16 times more likely to develop heart disease** than those with a low ratio.

When it comes to LDL cholesterol measurement, the metrics that matter are *not* total cholesterol or even total LDL, but the *number* and *size* of your LDL *particles*.

This is determined by the more modern cholesterol tests known as *particle size tests*.

The triglyceride to HDL ratio is an excellent stand-in for the particle size test. (Your insurance company may not cover the particle test, and you may not feel like springing for the 100 bucks or so it costs to get it, though I highly recommend that if you're "worried" about your cholesterol you do exactly that. But your triglyceride to HDL ratio is a terrific—and no cost—substitute.)

Those with high ratios of triglycerides to HDL tend to have much more of the atherogenic LDL-B particles (the bad kind), while those with low ratios tend to have the much healthier LDL-A particles. We would certainly not recommend treatment of "high cholesterol" with a statin drug just based on total LDL, and especially not for a person with a very low (2 or under) triglyceride to HDL ratio.

The triglyceride to HDL ratio got a lot of attention at the recent conference of the Nutrition and Metabolism Society in San Diego, and—if that recent Wall Street Journal article is any indication— you'll be hearing about it more and more once the media gets the message from doctors about how important it really is.

The information it gives you is invaluable, and you can't beat the cost.