Lahey Clinic

Health & Wellness News

Knowing Your Numbers

It Could Save Your Life

You know the routine: You go to the doctor. Roll up your sleeve. Extend one arm.

But did you know that the results of a simple blood pressure exam, when combined with the results of a blood cholesterol screening, add up to critical information that doctors use to determine your risk for heart disease and heart attack?

According to Suma Thomas, MD, a Lahey cardiologist, "Knowing your cholesterol and blood pressure numbers is important because high blood pressure and high cholesterol are leading causes of heart disease… and heart disease is the number one cause of death in this country."

The American Heart Association (AHA) reports that nearly 2,400 Americans die of heart disease each day- an average of one death every 37 seconds. CVD, particularly coronary heart disease (CHD) and stroke, remain the leading causes of death of women in America and most developed countries, with nearly 37 percent of all female deaths in the United States occurring from CVD.

Although most of us have heard that controlling blood pressure and cholesterol is important to heart health, many of us—particularly anyone who has not yet been touched by heart disease—aren't completely sure what all the numbers mean, or how knowing them can help extend our lives.

Cholesterol: Doing a Number on Your Arteries

Cholesterol is a waxy substance produced naturally by the liver and transported through the body by the blood. It serves several purposes, such as producing cell membranes and some hormones, as well as contributing to other bodily functions.

Cholesterol becomes dangerous when there is an excess of it in the body, a common occurrence since it is also present in many animal-based foods, including meat, poultry, fish and dairy products. When there is too much cholesterol in the bloodstream, plaque builds up on the artery walls, a condition known as atherosclerosis, and puts us at risk of heart and other vascular disease. A completely blocked artery to the heart can lead to a heart attack; a completely blocked artery to the brain can lead to a stroke.

"While a blood cholesterol screening measures your total cholesterol and other fats in the body called triglycerides, the two most important numbers to understand are your HDL, or high-density lipoprotein, and your LDL, or low-density lipoprotein," says Thomas. "LDL is the bad cholesterol that clogs arteries; HDL is the good cholesterol. In general, you want the HDL number to be high, and the LDL to be low. To remember the distinction, it helps to think: 'L' equals 'lousy' equals 'low.'"

If your cholesterol numbers* are abnormal, your physician will work with you to develop a treatment plan that typically includes regular cholesterol testing, a low-fat diet, smoking cessation, and a regular exercise program. "Exercise has been shown to raise HDL, or good cholesterol," adds Thomas.

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For appropriate patients, cholesterol-lowering medications such as statins are also available.

Although the AHA provides guidelines for interpreting cholesterol levels and making treatment recommendations (see chart), Thomas recommends patients talk with their physicians first to develop personalized cholesterol goals.

"While the guidelines are helpful, they are just that: guidelines," explains Thomas. "For instance, people who have already been diagnosed with heart disease have different LDL goals than people who do not yet have the diagnosis. Each person is different and has unique risk factors. Talk to your physician about what the appropriate number goals are for you."

Putting the Squeeze on High Blood Pressure

The second piece of the equation is blood pressure, which is recorded as two numbers: the systolic pressure, or top number, and the diastolic pressure, or bottom number. The systolic pressure is the pressure of blood in the vessels when the heart contracts. Diastolic pressure is the pressure of the blood between heartbeats, when the heart is at rest and is refilling.

According to the most recent guidelines issued by the National Heart, Lung and Blood Institute:

- Optimal blood pressure is less than 120/80 mm Hg.
- Prehypertension is defined as systolic blood pressure between 120 and 139, and a diastolic reading between 80 and 89.
- Hypertension, or high blood pressure, is defined as systolic blood pressure of 140 mm Hg or greater.

High blood pressure afflicts as many as 65 million adults and children in this country—or one in three adult Americans—according to the AHA. If left untreated, hypertension damages blood vessels and over time can lead to stroke, heart attack, congestive heart failure, or kidney failure. Fortunately, a newer classification of blood pressure called prehypertension allows doctors to recognize damage to vessels at lower blood pressure levels than previously thought.

"By identifying individuals with prehypertension," says Thomas, "patients and physicians can work together to lower blood pressure before the problem progresses."

Although there is currently no cure for high blood pressure, it can often be controlled through lifestyle modifications, including lowering salt intake, losing weight and developing a regular exercise program. For more serious problems, medication may be prescribed.

"Your ideal blood pressure numbers are based on your individual risk factors and should be determined in conjunction with your physician," adds Thomas.

Add It All Up

By understanding and staying on top of your cholesterol and blood pressure numbers, you're taking a huge step toward preventing future coronary disease, and lowering the risk of recurrent coronary artery problems if you've already been diagnosed with heart disease.

"Both high blood pressure and high cholesterol are silent health threats," explains Thomas. "Without testing, you won't know you have these risk factors for heart disease. You are never too young to start getting tested, particularly if there is any history of heart disease in your family. If your doctor doesn't suggest screening, ask for it. "

To make an appointment, call the Cardiovascular Health Center for Women at 1-877-524-LAHEY-96 (524-3996).

*Numbers That Count

Total Blood Cholesterol	less than 200 mg/dL = Desirable (lower risk) 200 to 239 mg/dL = Borderline high (higher risk) 240 mg/dL and above = High blood cholesterol
LDL (Bad) Cholesterol	Less than 70 mg/dL = Optimal goal if at very high risk of a heart attack or death from heart attack Less than 100 mg/dL = Optimal goal 100 to 129 mg/dL = Near or above optimal 130 to 159 mg/dL = Borderline high 160 to 189 mg/dL = High 190 mg/dL and above = Very High
HDL (Good) Cholesterol	Women: Less than 50 mg/dL = Higher risk Average is 50 to 60 mg/dL for women 60 mg/dL or higher gives some protection Men: Less than 40 mg/dL = higher risk Average is 40 to 50 mg/dL
Triglycerides	Less than 150 mg/dL = optimal 150 to 199 mg/dL = borderline high 200 to 499 mg/dL = High 500 mg/dL and above = very High

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Source: American Heart Association