

# AMERICAN HEALTH

FITNESS OF BODY AND MIND

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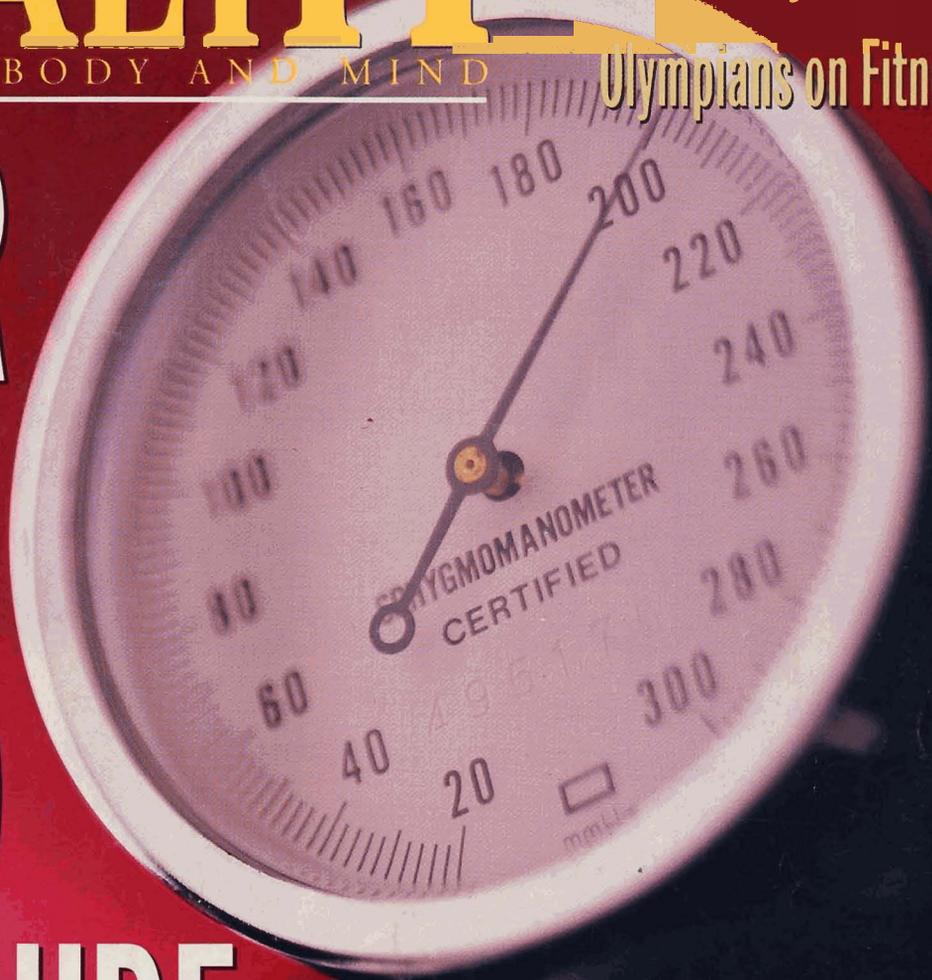
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C<sub>3</sub>

S<sub>1</sub>

H<sub>4</sub>

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V<sub>1</sub>  
QRS wave is primarily negative

V<sub>5</sub>  
QRS wave is strongly negative

V<sub>6</sub>  
QRS wave is positive

By Mark Fuerst

# THE CHOLESTEROL H A COUNTS

**D**ON'T LOOK NOW, but it turns out we've been testing cholesterol the wrong way all these years. That's what a panel of experts convened by the National Institutes of Health (NIH) concluded last month—and their report confirmed what many doctors have been saying all along.

The problem, said the NIH experts, is that simply measuring a person's total blood cholesterol can be misleading because it doesn't separate the components. Most of the cholesterol that enters your blood stream will be packaged in two kinds of wrappers: "helpful" high-density lipoproteins (HDL's) or "lethal" low-density lipoproteins (LDL's). These wrappers make all the difference to the health of your arteries: LDL's deposit their cholesterol in artery walls, while HDL's deposit cholesterol in the liver, where it's disposed of. Therefore, if your HDL lev-

els are high, your total cholesterol may be less of a health hazard than you've been led to believe. If they're low, your health may be at risk even if your total cholesterol falls within the normal

For Years Doctors Have Warned  
That "Total Cholesterol" Measure-  
ments Don't Tell the Real Story.  
Finally the Government Agrees

PHOTOGRAPH  
BY TOM TAVEE

range. Women tend to have HDL levels around 55 milligrams per deciliter (mg/dl), while men average about 45 mg/dl.

The medical community is focusing increasingly on the relationship between HDL's and total cholesterol, expressed as a ratio or a percentage. That ratio "is the single most effective predictor of heart attacks, and it's the number doctors should be checking," says Dr. William Castelli, director of the 35-year Framingham Heart Study in Massachusetts, the nation's longest-running study of heart disease. "In our study, there have been significant numbers of people with low total cholesterol readings who've had heart attacks anyway."

Some labs express the relationship between HDL's and total cholesterol as a percentage, but it's easy to calculate your ratio: Divide the figure for your total cholesterol by your HDL level. Castelli's data show that a person with a ratio of 4.5 or higher (for example, total cholesterol of 225 divided by HDL's of 50) is twice as likely to have a heart attack as a person whose ratio is 3.5 or lower. (An acceptable range is 4.5 to 3.5; less than 3.5 is ideal.)

Though some doctors and clinics now test HDL levels, most still don't. Testing for total cholesterol can be done in a matter of minutes, but most HDL tests now in use take more time, require a visit to a doctor and entail an often expensive lab analysis. Fortunately a new finger-stick HDL test, Cholestech's L•D•X Lipid Monitoring System, has just come on the market. All it requires is a drop of blood from your finger to give reasonably accurate HDL and total cholesterol readings after a four-minute analysis. "If your total cholesterol count is higher than 200, or if you have heart disease, the doctor may wish to use this new test to do a quick check of your HDL level," says Dr. Antonio Gotto, Jr., chairman of medicine at Baylor College of Medicine in Houston. "Then if the HDL's are low, you can come back for more extensive testing."

Until now, government scientists have insisted that the value of wide-scale testing hasn't been proved. "Identifying the 25% of the population with low HDL's through mass screening would place a considerable burden on the nation's health care system," says Dr. Basil Rifkind, chief of the lipid metabolism atherogenesis branch of the National Heart, Lung and Blood Insti-

tute. But the new test, along with the NIH report, should encourage the federal government to review its position.

The NIH panel based its report on a growing number of studies showing that a person whose HDL's are low is as much at risk for a heart attack as someone with high total cholesterol levels. Knowing your HDL level is especially important if your total cholesterol level is 200 mg/dl to 240 mg/dl, since half the people in this range will have a heart attack at some time in their lives. But even people with less than 200 mg/dl might do well to have their HDL's tested. "About 750,000 Americans with low HDL's and normal total cholesterol have heart disease," estimates Dr. Mi-

chael Miller, head of preventive cardiology at the University of Maryland.

For people at cholesterol extremes, HDL levels matter less. If your total blood cholesterol level is less than 150, for example, you don't need a lot of HDL to carry the excess cholesterol away. And if your total cholesterol is 300 mg/dl or higher, chances are you won't have enough HDL to bail you out.

For most people, raising HDL levels is likely to improve heart health. The best methods: Lose weight, exercise and quit smoking (see "How to Raise Your HDL's," below). ~

*Mark Fuerst is a freelance writer who specializes in medical subjects.*

## HOW TO RAISE YOUR HDL'S

To some extent, HDL levels are genetically determined. But there are several ways you can push yours higher:

► **LOSE WEIGHT.** A lean person will have higher HDL levels than someone who is overweight. Stanford University researcher Peter Wood studied two groups of overweight men who lost similar amounts of weight in the course of a year, one group by dieting, the other by exercising. Both groups showed a 15% increase of HDL's, up five to six points. "It didn't matter whether they lost weight by dieting or exercise as long as they lost it," says Dr. Wood.

► **EXERCISE REGULARLY.** In addition to promoting weight loss, exercise can further boost HDL's, since regular muscle contractions activate enzymes that raise HDL production. The more intense the exercise, the greater the effect.

Among a group of doctors training for the Boston Marathon, one man raised his HDL's from 60 to 100, notes Dr. William Castelli, director of the Framingham (Mass.) Heart Study. On average, the group's HDL's went from 45 to 55.

Several new studies show that even mild exercise will help. People who walk at least 2½ to four hours a week, or who play golf and walk the course three times a week, have shown improvements in their

HDL levels and cholesterol ratios.

► **STOP SMOKING.** Studies show that if you quit smoking, you can increase your HDL's by four or five points. Also, you might consider kicking the habit for your children's sake. Kids whose parents smoke a pack a day have lower HDL's than children of nonsmokers, according to Medical College of Virginia researchers.

► **CONSIDER ESTROGEN REPLACEMENT THERAPY.** Postmenopausal women who take estrogen supplements tend to increase their HDL's by four or five points. Studies over the past 15 years demonstrate that estrogen replacement therapy can help protect women from heart disease.

Most people can control their cholesterol levels by making simple lifestyle changes. Take the example of Dr. John Ross. For 10 years the 53-year-old lab researcher from Marietta, Ga., had a dangerously high total cholesterol count of 260. He tried a cholesterol-lowering drug but disliked the side effects.

"I decided to go off the drug and change my way of life," says Ross. He began to eat less and exercise more. Within a few months he'd brought his weight down 45 pounds to his current 177. His total cholesterol level remained high, but his HDL levels zoomed to 75 mg/dl, and his cholesterol ratio dropped below 3.5.