

AN ACP SPECIAL REPORT

Understanding and Managing Your
Triglycerides



What are Triglycerides?



Triglycerides are one of several types of fat in your body, and the most common of them all. Along with LDL (“bad”) cholesterol and HDL (“good”) cholesterol, triglycerides are important to understand and manage so you can maintain good heart health.

Triglycerides occur naturally in your bloodstream. Your body stores fat in the form of triglycerides when you eat more calories than you use during your daily activities. But when your body makes too many triglycerides, the result can contribute to hyperlipidemia, a clinical word that describes the presence of too much “bad” fat in your bloodstream. Hyperlipidemia is a nationwide problem that affects about 105 million Americans age 20 and over.

To learn more about triglycerides, use this guide to assess your risk and talk to your doctor. For more information, please call the American Heart Association (AHA) at **1-800-AHA-USA1**, or log on to the American Heart Association’s Web site at www.heart.org, the National Heart, Lung, and Blood Institute’s Web site at www.nhlbi.nih.gov, or MedlinePlus at www.medlineplus.gov.

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This ACP special report on triglycerides is made possible by the American College of Physicians and Reliant Pharmaceuticals.



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Why Fat Matters

**HDL, LDL, triglycerides ... what does it all mean?
Why is it so important?**

The levels of “bad” fats in your bloodstream say a lot about how healthy your cardiovascular (i.e., heart and circulation) system is. If you have high levels of “bad” fats, you are at a higher risk for cardiovascular disease, which is the No. 1 killer of Americans. Those “bad” fats are **LDL cholesterol** and **triglycerides**.

Too much LDL cholesterol and triglycerides in your bloodstream can lead to deposits of cholesterol on the inside walls of your arteries. These deposits, or plaques, narrow the opening of the artery so less blood can flow to tissues. This process is called **atherosclerosis**, which can lead to heart disease, stroke, or other serious cardiovascular diseases.

HDL cholesterol, on the other hand, is considered “good” fat. HDL takes the bad cholesterol out of your blood and keeps those fats from building up in your arteries.

A healthy heart and blood vessels are associated with low levels of LDL cholesterol and triglycerides, and a high level of HDL cholesterol. By looking at the levels of LDL cholesterol, HDL cholesterol, and triglycerides in your



bloodstream, your doctor can determine if you have hyperlipidemia.

Your triglyceride level is often closely linked to your LDL (“bad”) cholesterol level, which is why a high LDL level usually means a high triglyceride level, too. (See the table on the next page for more detailed information about those numbers.) But some people have a relatively low LDL reading but a high triglyceride level. The scientific term for this condition is **hypertriglyceridemia**, a condition that can also lead to cardiovascular disease.

Screening and Diagnosis

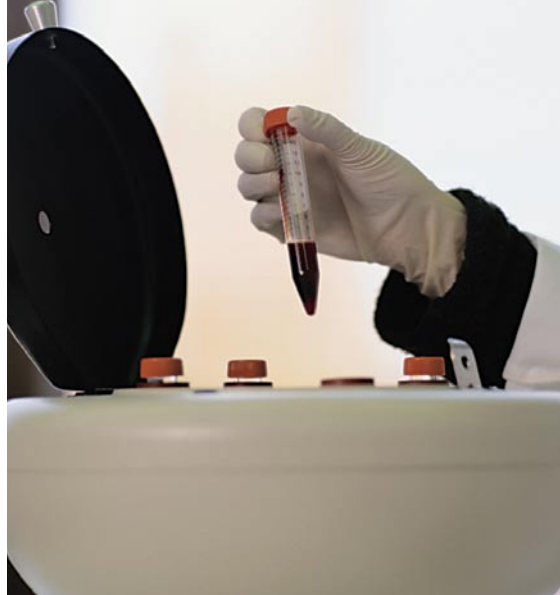
How are fats in the bloodstream measured? Your doctor uses a simple blood test called a fasting lipoprotein profile to measure the levels of cholesterol and other fats in your bloodstream.

The profile shows the readings for total cholesterol, HDL cholesterol, LDL cholesterol, and triglycerides. Each of those numbers is important, both on its own and as a complete picture of your blood's fat levels.

Before considering your triglyceride level, your doctor will first look at your overall cholesterol level, especially your LDL level. Your doctor determines your risk for heart disease and other cardiovascular disease based on your lipoprotein profile and other risk factors that may be present.

If both your LDL and triglyceride levels are high, your doctor will treat the LDL primarily. After you reach your LDL cholesterol goal, your doctor will attempt to increase low HDL cholesterol levels and reduce high triglycerides to further reduce your risk of heart disease.

The Adult Treatment Panel (ATP III) of the National Cholesterol Education Program recommends that doctors screen every adult over the age of 20 every 5 years with a fasting lipoprotein profile. More frequent screening may be necessary if you change your diet, gain weight, or develop diseases associated with hyperlipidemia, such as diabetes.



Your Fat Numbers and What They Mean

Your doctor will determine your actual target goals for your fat numbers, based upon whether you have other risk factors for heart disease. The numbers listed below are the “very best” numbers for these fats.

Type of Fat	Optimal Level
Total cholesterol	Less than 200 mg/dL
LDL cholesterol	Less than 100 mg/dL
HDL cholesterol	60 mg/dL or higher
Triglyceride levels	Less than 150 mg/dL

Since 1924, the American Heart Association has helped protect people of all ages and ethnicities from the ravages of heart disease and stroke. These diseases, the nation's No. 1 and No. 3 killers, claim more than 910,000 American lives a year. The association invested nearly \$474 million in fiscal year 2004-05 for research, professional and public education, advocacy, and community service programs so people across America can live stronger, longer lives.

Lifestyle and Diet

The main causes of hyperlipidemia are also risk factors for cardiovascular disease. These are:

- Eating too much saturated fat and trans fat
- Not enough exercise
- Obesity
- Smoking
- In some people, a family history of hyperlipidemia

The first step a doctor usually takes to lower a patient's bad fat levels is to prescribe what is called "therapeutic lifestyle change" (TLC). As a rule, this includes healthy changes to diet and exercise, as well as immediate steps to quit smoking.

Sticking to a TLC program can lower your LDL cholesterol and triglyceride numbers to improve your health significantly, including lowering your risk for heart disease.

According to the American Heart Association's Dietary Guidelines, a healthy diet will include:

- A variety of fruits and vegetables (at least five servings per day)
- A variety of grain products (at least half of which should be whole grain foods)



- Fat-free and low-fat milk products, fish, legumes (beans), skinless poultry, and lean meats
- Fats and oils with 2 grams or less of saturated fat per tablespoon, such as liquid and tub margarines, canola oil, and olive oil
- Less than 2,300 milligrams of sodium per day

A diet aimed at cutting triglyceride levels may also include increased soluble fiber (found in oats, peanuts, beans, and some fruits) and plant stanols or sterols, which are healthy substances found in nuts, vegetable oils, corn, and rice.

To get your bad fat levels down and your HDL cholesterol level up, your doctor may prescribe an exercise program for you according to your specific health conditions and needs. Your doctor will recommend an activity such as brisk walking for 30 minutes at least most days of the week. **Do not start any exercise program without first checking with your doctor.** This sample exercise prescription on the next page will give you an idea of what one looks like:

Sample Exercise Prescription

Day 1

- **Warm up (5 to 10 minutes):** Walk and gently stretch muscles.
- **Strength training (20 minutes):** Lift 2-pound weights in each hand as demonstrated in the office.
- **Cool down (5 to 10 minutes):** Walk and gently stretch muscles.

Day 2

- **Warm up (5 to 10 minutes):** Walk and gently stretch muscles.
- **Aerobic training (40 minutes):** Take a brisk walk outdoors or use a step machine or treadmill. Keep your heart rate below 120 beats per minute.
- **Cool down (5 to 10 minutes):** Walk and gently stretch muscles.

For patients who are overweight or obese, a weight loss goal will also be established. Your doctor can tell you if you are overweight or obese according to the Body Mass Index (BMI), which assigns a number based on your height and weight. If your BMI is under 25, your weight is healthy. If it falls between 25 and 29.9, you are overweight. If it is 30 or over, you are considered obese.

Losing even 5 percent to 10 percent of your body weight can do a lot of good for your overall health, such as reducing your risks for cardiovascular disease.

Patients who drink alcohol should limit themselves to no more than two drinks per day (for men), or one drink per day (for women). While research has shown some cardiovascular benefits of alcohol, drinking more than the recommended limits can do far more harm and is a risk factor for diabetes, among other conditions.

Patients who smoke should quit immediately. Smoking does serious harm to



blood vessel walls and lowers the good HDL levels that help fight atherosclerosis, among many other important health consequences. Smoking has been linked to greatly increased risk for cardiovascular disease, some types of cancer, serious lung diseases, and other potentially life-threatening conditions.

What About Trans-Fatty Acids?

A diet high in trans-fatty acids will raise the LDL cholesterol and lower the HDL cholesterol in your bloodstream. This can lead to heart disease, including a heart attack. That's why it's important to avoid foods high in trans-fatty acids, such as fast foods, stick and full-fat margarines, sweet rolls, cookies, doughnuts, and deep-fried foods.

Medication Therapy: the Second Line of Defense

For some patients, a therapeutic lifestyle change (TLC) prescription doesn't lower LDL or triglyceride levels enough—or the risks of heart disease are too high for TLC alone. In these cases, your doctor may prescribe medication to help your body lower the amount of these fat types in your bloodstream.

Four types of medication are typically used to lower blood lipid levels:

- **Statins:** These drugs block a liver enzyme your body uses to make cholesterol, which helps lower your levels of LDL cholesterol and triglycerides.
- **Bile acid sequestrants:** Also known as anion exchange resins, these medicines help your body get rid of cholesterol and can be used in combination with statins and fibrates.
- **Fibrates:** This is another type of medication that raises HDL cholesterol and lowers triglyceride levels in the blood.
- **Prescription niacin (nicotinic acid):** This works on the liver to slow the body's production of blood fats. It's very effective in raising levels of HDL cholesterol and can also be used in combination with other drugs.

In addition, there are prescription medications specifically designed to lower triglycerides.

- **Omega-3 fatty acids:** These are natural



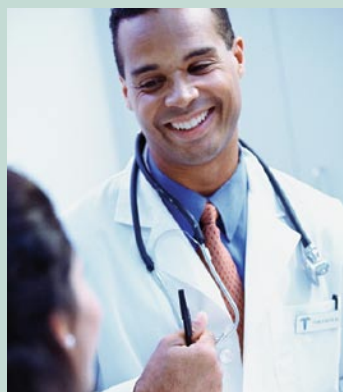
substances that your body needs, but cannot adequately produce on its own. They are found in some plants and in the oil of certain fish, such as salmon and mackerel. After evaluating your medical history and overall heart health, your doctor may specify a prescription omega-3 if you have very high triglycerides. The FDA has approved prescription omega-3s (but not supplement omega-3s) for the treatment of very high triglycerides.

The American Heart Association (AHA) does not recommend the use of dietary supplements to treat cardiovascular disease. AHA only recommends the use of FDA-regulated medicines for the prescribed treatment of diagnosed cardiovascular disease. Only prescription drugs are reviewed by the FDA to ensure proper strength and effectiveness.

It is important to tell your health care provider about all the medicines you take, including both prescription and non-prescription medicines, vitamins, and herbal supplements. Medicines may affect each other, causing side effects.

What is a doctor of internal medicine?

Doctors of internal medicine, often called “internists,” focus on adult medicine. They care for their patients for life—from the teen years through old age. Internists have had special study and training focusing on the prevention and treatment of adult diseases. At least 3 of their 7 or more years of medical school and postgraduate training are dedicated to learning how to prevent, diagnose, and treat diseases that affect adults. Internists are sometimes referred to as the “doctor’s doctors” because they are called upon to act as consultants to other physicians and help solve puzzling diagnostic problems.



Why choose an internist for your health care?

An internist, just like a family or general practitioner, can serve as your primary care doctor. But internists are unique because they focus on adult medicine. Internists don’t deliver babies, they don’t treat children, and they don’t do surgery. They do, however, have wide-ranging knowledge of complex diseases that affect adults. With in-depth training in adult medicine, an internist is your best choice to help you navigate the increasingly complex world of medical care.

An internist can treat you for something as routine as the flu or fatigue, or provide in-depth care for diseases such as diabetes, depression, cancer, or heart disease. Internists often coordinate the subspecialists a patient might see in the process of treating an illness. Internists’ patients like knowing that they have a relationship with a physician who is equipped to deal with whatever problem the patient may have—no matter how simple or complex.

What is the American College of Physicians?

American College of Physicians (ACP) is the nation’s largest medical specialty organization and second-largest physician group. Its membership includes more than 115,000 internal medicine physicians, related subspecialists, and medical students. Internists treat the majority of adults in the United States. The ACP mission is to enhance the quality and effectiveness of health care by fostering excellence and professionalism in the practice of medicine. ACP is headquartered in Philadelphia, with an office focusing on public policy in Washington, D.C.

For more information about internists and internal medicine, visit www.doctorsforadults.com.

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