

Hormone Health Network's Patient Guide to the Assessment and Treatment of Hypertriglyceridemia (High Triglycerides)

Having high levels of triglycerides, or *hypertriglyceridemia*, is a common problem. Triglycerides are fats in the blood (also called lipids). Your body needs some blood fats for energy. But when your triglyceride levels are too high, these fats may put you at risk for heart disease, stroke, and other health problems.

Most often, having high triglycerides has no warning signs. The good news, though, is there is a simple test to find high triglycerides, and treatments are available.

This guide for patients comes from The Endocrine Society's practice guidelines for physicians about the detection and treatment of hypertriglyceridemia.

What are the effects of high triglycerides?

It is unclear if high triglycerides alone are a risk factor for cardiovascular disease (heart disease and stroke). Triglycerides do not directly cause the plaque that can block your heart's arteries (*atherosclerosis*) and lead to a heart attack. Yet, cholesterol in triglyceride-rich particles in the blood may add to plaque formation.

Also, many people with high triglycerides have other lipid problems or other risk factors for heart disease. A high triglyceride level is one part of the metabolic syndrome, a cluster of risk factors that increase the risk for heart disease and diabetes.

High triglycerides can affect more than your heart and blood vessels. Very high triglycerides raise the risk for *pancreatitis*, an inflammation of the pancreas. The pancreas is large gland behind the stomach that makes key hormones like insulin. It helps your body maintain healthy blood glucose (sugar) levels. Pancreatitis can cause stomach pain and digestive problems. It can damage the pancreas and, over a long time, can lead to diabetes.

What raises the risk for high triglycerides?

Triglycerides normally increase with age. They may become too high for one or more reasons.

Risk factors include

- Lifestyle factors
 - Being overweight or obese
 - Not getting enough exercise
 - Drinking too much alcohol
- Familial (inherited) disorders
- Type 2 diabetes or the metabolic syndrome
- Pregnancy

- Medications
 - Some “water” pills (thiazide diuretics)
 - Beta-blockers
 - Estrogen (birth control pills, hormone therapy)
 - Isotretinoin for acne
 - Corticosteroids for conditions such as asthma and arthritis
 - Certain cholesterol-lowering drugs
 - Protease inhibitors for HIV
 - Immune suppressants (such as sirolimus)
 - Some antipsychotics (mental health medicines)



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The most common reasons for high triglycerides include being overweight, lack of exercise, the metabolic syndrome, type 2 diabetes, and *familial combined hyperlipidemia*. The latter is a genetic disorder that runs in the family. It results in high triglycerides, high “bad” (low-density lipoprotein, or LDL) cholesterol, and low “good” (high-density lipoprotein, or HDL) cholesterol.

How are high triglycerides found?

A blood test called a *lipid panel* measures triglycerides and cholesterol. You should have this test after fasting (not eating or drinking anything but water) for at least 12 hours.



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Adults should get this screening test every five years or sooner. If you have diabetes, a family history of high triglycerides, or other risk factors, you may need screening more often, according to the National Cholesterol Education Program (NCEP) Guidelines.



The first step for lowering triglycerides is to lose weight if you are overweight, exercise often, and eat a healthy diet low in saturated (bad) fat and sugar. Besides these lifestyle changes, you may also need drug treatment.

The NCEP defines borderline-high triglycerides as 150 to 199 milligrams per deciliter (mg/dL) and high triglycerides as 200 to 499 mg/dL. Very high triglycerides are 500 mg/dL or higher. The Endocrine Society instead defines hypertriglyceridemia by its disease risk (see chart below). Most people with high triglycerides have levels from 150 to 999 mg/dL, which puts them at risk for heart disease. Above 2,000 mg/dL poses a high risk for pancreatitis.

Triglyceride Test Results and Disease Risk

Level	Severity of hypertriglyceridemia	Raised risk
Less than 150 mg/dL	Normal	None
150–199 mg/dL	Mild	Heart disease
200–999 mg/dL	Moderate	Heart disease
1,000–1,999 mg/dL	Severe	Very severe hypertriglyceridemia
2,000 mg/dL or higher	Very severe	Pancreatitis

If your triglycerides are above normal, your doctor will find out if the cause is primary (genetic) or secondary (e.g., due to hormonal disease or medications). Untreated secondary causes need treatment. If the cause is a medication, ask your doctor if you can switch to a medicine that does not raise triglycerides.

Your health care providers may check you for other risk factors for heart disease, such as high blood pressure, high blood glucose, and too much fat around your waist. They also may ask about your family history of abnormal lipids and heart disease. This helps to assess your future risk for having a heart attack or a stroke.

What is the treatment for high triglycerides?

The goal of treatment is to lower your triglycerides. Patients with very severe hypertriglyceridemia should try to lower their triglycerides below 1,000 mg/dL, to reduce their risk for pancreatitis.

Lifestyle changes. The first step for lowering triglycerides is to lose weight if you are overweight, exercise often, and eat a healthy diet low in saturated (bad) fat and sugar. Also, limit the amount of refined, processed grains you eat, such as white bread, rice, and pasta. Follow your doctor's advice about limiting intake of alcohol, which raises triglycerides in some people.

Medications. Besides lifestyle changes, you may also need drug treatment. For mildly or moderately high triglycerides, your doctor may prescribe one of these types of drugs:

- *Fibrates*, which greatly lower triglycerides and sometimes raise HDL (good) cholesterol. In the U.S., these prescription drugs include gemfibrozil and fenofibrate.
- *Niacin*, or vitamin B3, at doses of 1,000 to 3,000 mg per day, lowers triglycerides and LDL cholesterol and raises HDL cholesterol. These doses apply to immediate-release (released into the body right away) niacin, available by prescription or as a supplement. The dose of sustained-release (released into the body over time) niacin, which is only available as a supplement, shouldn't exceed 2,000 mg per day because of the risk of liver damage.
- *Omega-3 (n-3) fatty acids* eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) lower triglycerides. These polyunsaturated (good) fats are found in fatty fish such as salmon. In high doses, they can treat high triglycerides. You can get high doses of omega-3 fatty acids in a fish oil supplement or by prescription.

Your doctor may add a statin to your other drug treatment. Though statins mainly lower LDL cholesterol, they also can decrease triglycerides. Some studies show that statins reduce the risk of heart attacks and strokes. It is unclear if fibrates and niacin prevent heart attacks and strokes.

If your triglycerides are above 1,000 mg/dL, though, the first choice of medicine is a fibrate. You may need a statin, too, but experts advise against treatment with statins alone if your high triglycerides are severe or very severe. Fibrates are better than statins at lowering triglycerides. However, people with liver disease or gallbladder disease should not take fibrates.

Talk to your doctor about the risks and benefits of all these drugs. Medications do not cure the problem of high triglycerides, so you will need to take them long term. However, weight loss and other lifestyle changes can lower high triglycerides enough to eliminate the need for medication.

Ask your doctor if you should see an endocrinologist. This physician specialist can find and treat hormonal causes of high triglycerides.

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