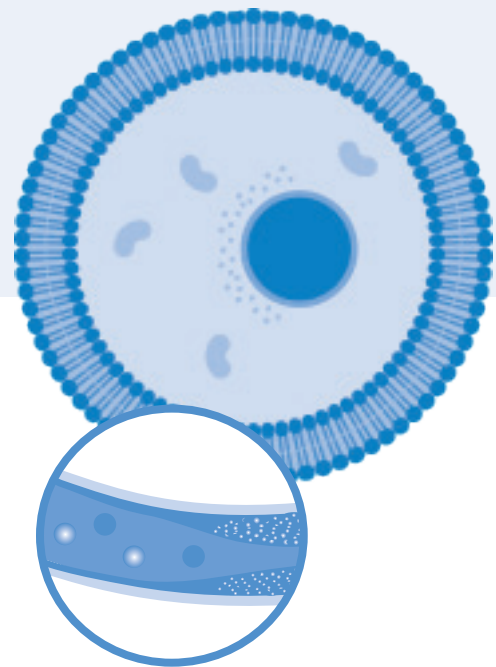


LEARN YOUR LIPIDS










Lipids are essential to our health and wellbeing. Lipids also play a role in protection, lubrication, insulation, and are the building blocks for certain hormones. Our bodies only need a small amount of lipids to function. Complications can occur if lipid levels are too high or too low.



WHAT ARE LIPIDS?

Lipids are a group of fats that include cholesterol and triglycerides. Cholesterol is needed to make vitamin D and some hormones. Triglycerides provide long-term energy storage. Having lipid levels that are too high or too low is known as dyslipidemia. High cholesterol levels can cause fat deposits to develop in the artery walls. This can increase the risk for heart disease and stroke. High triglycerides can cause inflammation of the pancreas, a condition called pancreatitis. Some endocrine conditions are associated with abnormal lipids. These include diabetes, polycystic ovary syndrome (PCOS), hyperthyroidism, and obesity. In rare cases, individuals may have lifelong low lipid levels, which may sometimes indicate an underlying condition such as cancer.

WORDS TO KNOW

-  **Lipoproteins:** a combination of protein and fat (cholesterol and/or triglycerides) that transport cholesterol and triglycerides through blood plasma.
-  **Triglycerides:** a type of fat in the blood that serves as an important source of energy. If triglycerides are too high, pancreatitis may develop.
-  **Cholesterol:** a waxy, fat-like substance that is found in all cells in the body. It is also found in foods from animal sources.
-  **High-density lipoprotein (HDL):** this is known as good cholesterol! It picks up excess cholesterol in the blood stream and higher levels are associated with a lower risk of heart disease and stroke.
-  **Low-density lipoprotein (LDL):** this is bad cholesterol! It makes up most of your body's cholesterol. High levels of LDL can increase the risk for heart disease and stroke.
-  **Fasting Lipid Panel:** measures total cholesterol, LDL cholesterol, HDL cholesterol and triglycerides. It requires a 12 hour fast of no food or any drinks besides water before blood is taken for the test.
-  **Non-fasting Lipid Profile:** allows patients to eat before a blood test. This may be a preferred method for patients with diabetes who may experience hypoglycemia after fasting.
-  **Metabolic Syndrome:** a cluster of risk factors that increase the chances of developing heart disease, stroke, and diabetes. Common risk factors are large amounts of abdominal (belly) fat, low HDL levels, high triglycerides, as well as high blood pressure and blood sugar levels.
-  **Dyslipidemia:** having abnormal levels of cholesterol and triglycerides.

DIAGNOSING ABNORMAL LIPID LEVELS AND WHAT YOU SHOULD KNOW

A lipid panel, or a blood test, will be conducted to measure LDL and HDL cholesterol and triglycerides. In most cases, lipid testing can be done without making changes to your daily routine. Your doctor may request you to fast for 12 hours prior to testing to avoid significant changes in lipid levels that can be affected by foods eaten. If your lipid levels are high, additional testing may be done to eliminate causes of high lipids, such as thyroid disease or other endocrine conditions. Diagnosis of some lipid disorders may require referral to a specialist.

Visit [endocrine.org](https://www.endocrine.org) for more information.

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 Developed for patients based on *Lipid Management in Patients with Endocrine Disorders: An Endocrine Society Clinical Practice Guideline*

LIPID LEVELS CAN BE ABNORMAL BECAUSE OF THE FOLLOWING:



Lifestyle



Obesity



Endocrine diseases such as hypothyroidism, hyperthyroidism, Cushing syndrome, chronic use of steroids, acromegaly, PCOS



Genetics



Diabetes



Certain drugs

LIPID PATHWAYS AND HORMONES



Your hormones control the pathway for fats and proteins. The primary hormones involved in this process are estrogen, testosterone, insulin, cortisol, thyroid hormone, growth hormone, and glucagon.

DID YOU KNOW



High cholesterol and triglycerides often have no symptoms. They can only be detected by a lipid profile.

ADVICE FOR SCREENING AND TREATMENT

- If you have been diagnosed with an endocrine disorder, a lipid panel can be done to determine your cholesterol and triglyceride levels.
- Lifestyle changes can help you to lose weight, and lower triglyceride levels.
- Diet, exercise, and medications may be recommended for patients with high triglycerides to prevent pancreatitis.
- If you have had weight loss surgery, your doctor can measure your lipid panel to determine the risk for heart disease.
- Statins in addition to diet and exercise can be used to reduce the risk of heart disease in adults with type 1 and type 2 diabetes, Cushing Syndrome, postmenopausal women, and obesity.
- If you were diagnosed with hypothyroidism, the lipid panel should be re-evaluated after your thyroid is functioning properly.
- Lifestyle changes can help lower lipids in women with PCOS. Lipid therapy isn't advised to treat symptoms of high testosterone levels or infertility in women with PCOS.
- Traditional guidelines should be followed when assessing cardiovascular risk in transgender patients.

TREATMENT OPTIONS FOR REDUCING HEART DISEASE



Lifestyle changes are recommended first and may include weight loss, eating a healthy diet, and increasing physical activity. Common treatment options recommended may include reducing LDL cholesterol, blood pressure, and elevated glucose levels, and quitting smoking. Medications are dependent on the type of lipid abnormality or underlying condition, and recommendation from doctors.

QUESTIONS TO ASK YOUR HEALTHCARE PROVIDER

- What should I expect during a lipid panel test?
- What are the common goals for total cholesterol, HDL cholesterol, LDL cholesterol, and triglycerides?
- What lifestyle changes should I make to lower my cholesterol and triglyceride levels?
- Based on my endocrine condition, what is my risk of heart disease, and which treatment method is right for me?



Patients have questions. We have answers.

Endocrine Society is your trusted source for endocrine patient education.

Our free, online resources are available at endocrine.org/patient-engagement