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Hyperlipidemia and HIV: High Cholesterol and Triglycerides

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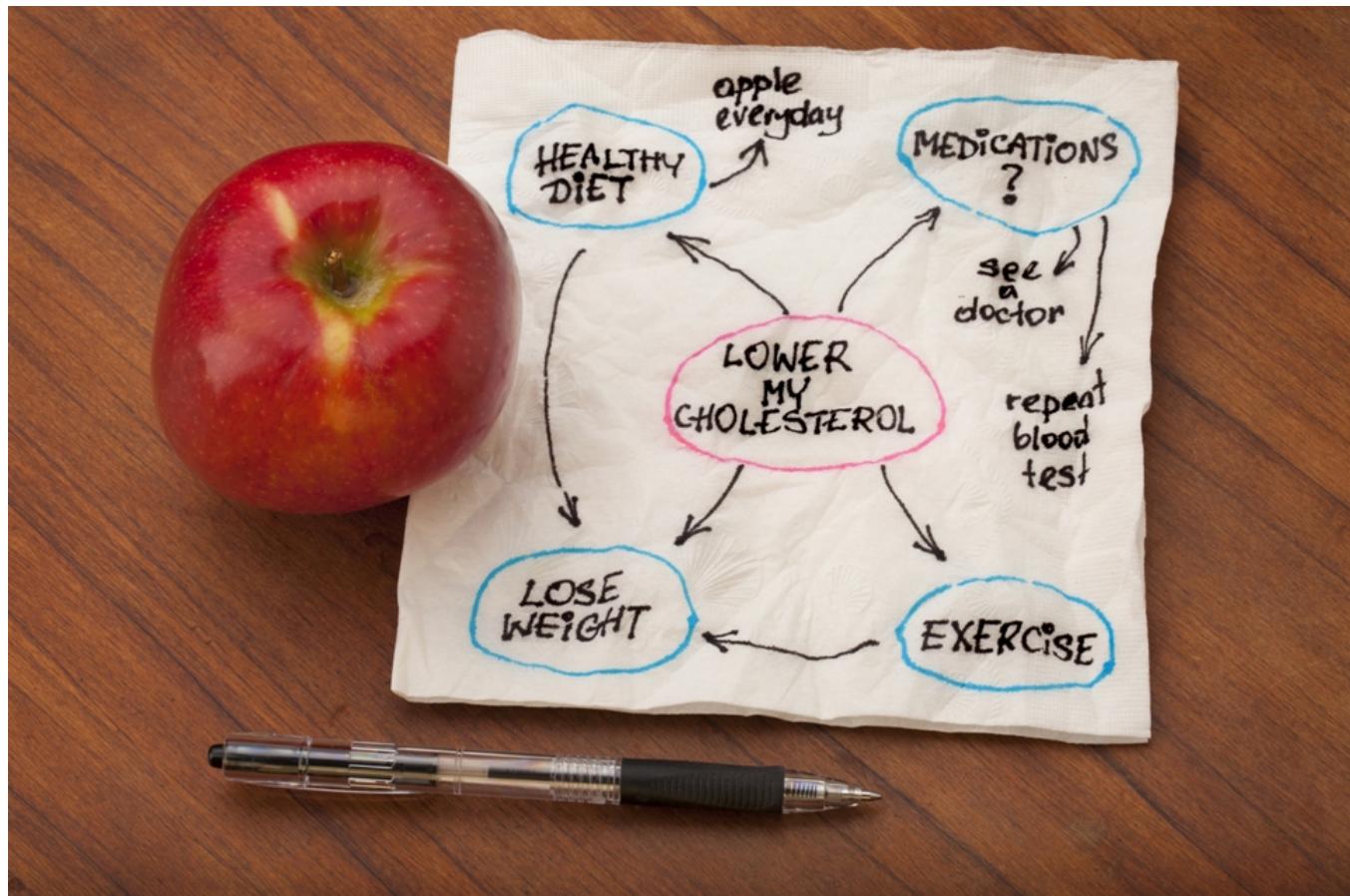


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Lipids are fats and fat-like substances in the blood. Cholesterol and triglycerides are lipids. Your body uses cholesterol to build and maintain cells and to make some hormones. After eating, energy that is not needed right away is converted into triglycerides, which are stored in fat cells.

While having some cholesterol and triglycerides in the blood is important for the body to function properly, having too much is unhealthy. Having high levels of lipids is called hyperlipidemia (also known as high cholesterol, or high triglycerides).

Hyperlipidemia and HIV

There are many possible causes for high lipid levels, including HIV itself and some HIV drugs. This puts people living with HIV at particular risk for developing hyperlipidemia. Although you cannot tell if you have this condition without [lab tests](#), it can cause serious long-term health problems.

While having some cholesterol and triglycerides in the blood is important for the body to function properly, having too much is unhealthy.

The main danger of hyperlipidemia is [heart disease](#). If you have too much cholesterol in your blood, it can build up on the inside of your arteries (blood vessels) and form plaques (hard patches). This buildup of plaque can lead to a heart attack or stroke. High triglycerides can also increase your risk of getting pancreatitis (a painful inflammation of an organ in your belly called the pancreas).

Some people living with HIV experience lipodystrophy. Lipodystrophy means abnormal body fat changes, and can include body shape changes and metabolic changes such as hyperlipidemia. These changes may increase your chances of developing diabetes, heart disease, and strokes. For more information, see our fact sheets on [lipodystrophy](#).

How to Know if You Have Hyperlipidemia

There are two main kinds of cholesterol. One is low-density lipoproteins (LDL) or "bad" cholesterol, which can clog the arteries. The higher your LDL, the higher your risk of heart disease. The other kind is high-density lipoproteins (HDL) or "good" cholesterol, which can help reduce the risk of heart disease.

Your health care provider can tell you if you have high cholesterol or triglycerides by doing a simple blood test called a fasting lipid profile. This will measure total cholesterol, HDL, LDL, and triglycerides. It is important that you have nothing to eat or drink for eight to 12 hours before the test is done. The following levels are ideal:

- Total cholesterol – less than 200
- Low-density lipoproteins (LDL) – less than 100
- High-density lipoproteins (HDL) – 60 or higher
- Triglycerides – less than 150

Foods That Affect Cholesterol and Triglyceride Levels

There are several types of fat in the foods we eat. These include saturated fats, trans fats, polyunsaturated fats, and monounsaturated fats. Saturated and trans fats raise cholesterol levels and increase the risk of heart disease the most. They are considered "bad" fats. Polyunsaturated and monounsaturated fats tend to keep cholesterol low and are considered "good" fats.

Saturated fat is usually solid at room temperature (e.g., butter). It is found in the fat of animal products, such as meats and dairy (cow's milk). It is also found in a few vegetable products, such as coconut, palm, and palm kernel oil. To keep the amount of "bad" fats in your diet low, always check food labels and choose dairy products with low saturated fat content like skim (non-fat) or one percent milk, and

low-fat cheese and ice cream. When you are buying meats, choose leaner cuts of meat and trim off fat before cooking. Lean meat has less visible "marbling" (white fatty swirls or stripes that can be seen in the pinkish meat). If possible, ask your grocer or butcher to help you find leaner cuts of meat.

Most trans fats are manufactured or synthetic fats. These are the result of food processing techniques that produce partially hydrogenated unsaturated fats. Check food labels and avoid trans fat and partially hydrogenated fats or oils as much as possible.

To keep the amount of 'bad' fats in your diet low, always check food labels and choose dairy products with low saturated fat content like skim (non-fat) or one percent milk, and low-fat cheese and ice cream.

Polyunsaturated and monounsaturated fats ("good" fats) are usually liquid at room temperature and generally come from plants. These include oils (olive oil, safflower oil, peanut oil), nuts, and avocados. If you use oil in cooking, two good choices are canola and olive oil.

Eating a lot of "refined" carbohydrates or simple sugars (e.g., sugary foods, sodas, white bread, white rice, pasta) can raise triglycerides. To reduce total cholesterol, LDL, and triglyceride levels, it is important to limit the amount of bad fats and added simple sugar in your diet. Consider seeing a registered dietitian who can help you make good choices and plan your meals. Many AIDS service organizations have registered dietitians on staff who will see you free of charge. For more information, see our fact sheet on [nutrition](#).

Physical Activity and Hyperlipidemia

If you take a lipid-lowering drug, it is still important to include a low-fat diet and exercise in your lifestyle to help the drug work its best.

Aerobic, or cardiovascular, [exercise](#) is the kind of physical activity that will help lower your lipid levels. A brisk walk, dancing, or other activity that gets your heart pumping moderately hard counts as aerobic exercise that can benefit your heart. This kind of exercise has been found to lower total cholesterol, triglycerides, and LDL; it can also raise HDL. It is important to get 30 minutes of moderately hard aerobic exercise five times a week.

Drugs for Hyperlipidemia

Sometimes, despite diet and exercise, lipids cannot be kept at healthy levels without the help of drugs. There are a variety of drugs available to help lower cholesterol and triglycerides. Some of these may interact with HIV drugs. To reduce the chance of [drug interactions](#), make sure your health care provider knows all the medications you take, as well as any [vitamins or supplements](#), or any street drugs you use.

If you take a lipid-lowering drug, it is still important to include a low-fat diet and exercise in your lifestyle to help the drug work its best. It is also important to take the drug regularly as it is prescribed.

One of the main types of drugs used to treat hyperlipidemia is called a statin. Early studies in people living with HIV also found that statins could reduce inflammation. Some scientists believe that inflammation is the key to the process of "accelerated aging" that affects some people living with HIV.

A large [clinical trial](#) called REPRIEVE is currently underway to examine the ability of a statin drug called

pitavastatin to reduce inflammation and heart disease among people living with HIV. An interim analysis while the trial is still ongoing found that this statin significantly reduced the risk of heart disease.

HIV Drugs and Hyperlipidemia

Some HIV drugs have been:

- Found to cause changes in lipid levels
- Tied to [diabetes](#)—another risk factor for heart disease
- Linked to an increased risk of heart attacks, for reasons that are not clearly understood

While experts agree that heart disease risks are associated with some HIV drugs, HIV treatment also offers important benefits to the heart and [immune system](#). Work with your health care provider to weigh the risks and benefits of the HIV medications you choose.

If you take [HIV drugs](#), it is important to be aware of possible [side effects](#). You may need to get your lipid levels checked regularly, if you take certain HIV drugs. It is also important that you not stop taking your medications or make changes to your HIV drug regimen without first speaking to your health care provider.

Other Risks for Heart Disease

Other factors that increase a person's risk of heart disease include:

- Family history of heart disease
- Little or no [physical activity](#)
- High-fat, high-sugar diet
- High blood pressure
- Age (women over 55, men over 45)
- Obesity
- Diabetes
- [Smoking](#)

Try these tips for lowering cholesterol and triglycerides and decreasing other risk factors:

- Avoid fried foods
- Avoid adding extra fats, such as butter, sour cream, dressings, and gravy, to foods
- Limit sweets and snack foods
- Cut excess fat and skin off meats
- Choose skim or one percent milk instead of whole or two percent milk
- Limit cheese or try low-fat cheeses
- Choose whole grain breads instead of white breads; choose brown rice instead of white rice
- Increase fiber with whole grains, fruits and vegetables, and cooked beans
- Eat fish three times a week
- Increase aerobic exercise to five times a week for 30 minutes or more
- If your health care provider has prescribed lipid-lowering drugs, make sure to take them consistently
- Maintain a healthy body weight
- If you smoke, try to [quit](#) or at least cut down
- Avoid drinking too much alcohol. The US Centers for Disease Control and Prevention recommends no more than one alcoholic drink (one 12-ounce can of beer, one 5-ounce glass of wine, or 1.5 ounces of distilled spirits, such as whiskey or tequila) per day for women

Taking Care of Yourself

Because hyperlipidemia and other conditions associated with lipodystrophy have been linked to heart disease and strokes in people living with HIV, it is important to keep all of your medical appointments, get regular [lab tests](#), and tell your health care provider about any changes in the way you feel or in your body shape. Other factors also contribute to the risk of heart attacks and strokes, including high blood pressure. If you have high blood pressure, it is important to have that treated as well. You can also support your body, and especially your heart, with a healthy diet, regular [exercise](#), and [limiting or stopping tobacco use](#).

Additional Resources

Select the links below for additional material related to hyperlipidemia.

- [How to Lower Your Cholesterol Without Drugs \(Harvard Medical School\)](#)
- [HIV and High Cholesterol \(HIVinfo\)](#)
- [Cholesterol \(MedlinePlus\)](#)
- [10 Tips to Lower Cholesterol With Your Diet \(Healthline\)](#)
- [Lipid Panel \(Testing.com\)](#)
- [Dietary Fat: Know Which to Choose \(Mayo Clinic\)](#)
- [Cholesterol \(American Heart Association\)](#)
- [Cholesterol: Top Foods to Improve Your Numbers \(Mayo Clinic\)](#)
- [Your Guide to Lowering Your Cholesterol with Therapeutic Lifestyle Changes \(US ...](#)
- [REPRIEVE: Randomized Trial to Prevent Vascular Events in HIV \(REPRIEVE Trial\)](#)
- [Cholesterol and HIV \(aidsmap\)](#)



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