TEST

HDL test

An HDL test measures the cholesterol carried in high-density lipoprotein particles in your blood.

WHAT IT MEASURES
Cholesterol carried in high-density lipoprotein particles

SAMPLE
Blood

FASTING NEEDED?
Usually no; sometimes requested with a full lipid panel

HOW LONG IT TAKES
About 5 to 10 minutes

RESULTS IN
Usually within a few days, varying by laboratory

USED FOR
Cardiovascular risk screening and treatment monitoring

MAIN LIMITATION
HDL alone cannot show overall cardiovascular risk

Overview

An HDL test measures HDL cholesterol in your blood. HDL stands for high-density lipoprotein , a type of particle that carries cholesterol through the bloodstream.

HDL particles help transport cholesterol away from tissues and toward the liver, where it can be processed and removed. For this reason, HDL is sometimes called "good cholesterol." However, that label is an oversimplification. The test measures how much cholesterol HDL particles carry, not how well those particles work.

HDL is usually measured as part of a lipid panel . This panel commonly includes total cholesterol, LDL cholesterol and triglycerides. It may also report non-HDL cholesterol or a cholesterol ratio.

An HDL result cannot diagnose heart or blood vessel disease. It is one part of assessing your overall cardiovascular risk.

Why the test is ordered

The test is mainly used to help estimate the chance of developing cardiovascular disease, including heart attack and stroke. Lower HDL levels are associated with higher risk in population studies, but the result must be considered with other health information.

An HDL test may be ordered to:

HDL is not usually treated as a stand-alone target. Medicines that raise HDL have not always been shown to reduce heart attacks or strokes. LDL cholesterol and the total number of cholesterol-carrying particles that can enter artery walls are often more useful treatment considerations.

- Screen for cholesterol-related cardiovascular risk
- Complete a routine lipid panel
- Monitor cholesterol changes over time
- Review the effects of lifestyle changes or medicines
- Help investigate an unusual lipid pattern

Who should have the test

HDL testing is commonly included when adults have cholesterol screening. How often testing is offered depends on age, previous results, cardiovascular risk factors and local guidance.

Testing may be considered more often if you have diabetes, high blood pressure, kidney disease, a history of smoking or a family history of early cardiovascular disease. It may also be used if you already take cholesterol-lowering medicine.

Children and teenagers may have lipid testing as part of routine screening in some healthcare systems or because of family history and other risk factors.

Your individual testing schedule should be based on your overall health rather than the HDL number alone.

How to prepare

Most people do not need to fast for an HDL test. Eating has much less immediate effect on HDL than on triglycerides. A non-fasting lipid panel is suitable for many routine checks.

You may be asked to fast if the clinician needs a fasting lipid panel, your triglycerides were previously high, or a non-fasting result was difficult to interpret. Follow the instructions from

the laboratory. If fasting is required, it usually means having only water during the stated period.

Keep taking prescribed medicines unless you have specifically been told otherwise. Do not stop a medicine because it may affect cholesterol.

Tell the person ordering the test if you are pregnant, recently had a major illness or operation, or have recently changed medicines. These details can affect interpretation.

What happens during the test

A healthcare professional takes blood from a vein, usually inside your elbow or on the back of your hand. An elastic band may be placed around your upper arm, and the skin is cleaned before a small needle is inserted.

The blood is collected into a tube and sent to a laboratory. The needle is then removed, and pressure is placed over the site. The blood draw usually takes only a few minutes.

Some pharmacies, clinics and home kits use a finger-prick sample. These can be useful for screening, but an unexpected result may need confirmation with a laboratory venous blood test.

Understanding your results

HDL cholesterol is usually reported in milligrams per decilitre (mg/dL) or millimoles per litre (mmol/L). Use the unit and reference information shown on your own report.

In general, lower HDL is associated with greater cardiovascular risk. A higher value is often associated with lower risk, but it does not guarantee protection. Very high HDL can occur because of inherited traits, alcohol use, medicines or some medical conditions and should not automatically be viewed as beneficial.

There is no single HDL number that can be interpreted correctly for everyone. Ranges and interpretation vary by laboratory, age, sex, pregnancy status, medicines and clinical context.

Your result is usually assessed alongside:

Risk calculators may include HDL, but they combine it with several other factors. A result marked "low" does not mean that you have blocked arteries, while a result marked "normal" or "high" does not rule them out.

- LDL, non-HDL and total cholesterol

- Triglycerides
- Blood pressure and diabetes status
- Smoking history
- Age and sex
- Family and personal cardiovascular history

What affects the results

HDL can change even when the laboratory has measured the sample correctly. A single result may not represent your usual level.

Recent strenuous exercise can temporarily change lipid levels. Longer-term regular activity may also raise HDL modestly. Rapid weight change, smoking changes and changes in alcohol intake can affect the result.

Pregnancy alters cholesterol levels, particularly later in pregnancy. Age, sex and hormonal changes such as menopause also influence HDL.

An infection, inflammation, major operation or other recent illness may temporarily change lipid levels. Kidney, liver and thyroid conditions can alter how lipoproteins are made or cleared.

Medicines can also affect HDL. Examples include estrogen-containing medicines, anabolic steroids, some beta blockers like metoprolol or propranolol , some diuretics and lipid-lowering treatments. Do not stop any medicine before testing unless specifically instructed.

Eating shortly before the test usually has limited direct effect on HDL, but it can substantially raise triglycerides. Very high triglycerides may make the wider lipid panel harder to interpret. Large volumes of intravenous fluid or a recent transfusion may also make a result less representative of your usual level.

Normal day-to-day biological variation and differences between laboratory methods can produce small changes. If a result is unexpected or does not fit previous tests, repeating it under similar conditions may be useful.

Accuracy and limitations

Laboratory HDL methods are generally reliable for routine lipid testing, but no blood test is perfect. Accuracy can be reduced when the sample contains extremely high triglycerides, unusual lipoproteins or proteins that interfere with the test. Certain severe liver or kidney

disorders may also make some direct HDL methods less reliable.

The test does not have one meaningful "false-positive" or "false-negative" rate because it does not give a simple yes-or-no diagnosis. Its main risk of being wrong in practice comes from interpretation. A low result can suggest increased risk in someone whose overall risk is low, while a high result can give false reassurance to someone with high LDL, diabetes, smoking exposure or other major risks.

HDL cholesterol measures the cholesterol inside HDL particles. It does not measure the number, size or function of those particles.

When the usual lipid panel does not answer the clinical question, non-HDL cholesterol or apolipoprotein B may better reflect particles that can contribute to artery disease. Lipoprotein(a) testing addresses a separate, largely inherited risk factor. These tests do not replace HDL in every situation.

Risks and complications

A blood draw may cause brief discomfort, a small bruise or light bleeding where the needle entered. Some people feel faint, but serious complications are uncommon.

What happens next

Most HDL results are handled through routine follow-up. The clinician who ordered the test may compare it with previous results, review the rest of your lipid panel and estimate your overall cardiovascular risk.

Next steps might include continuing your current plan, discussing diet and physical activity, repeating the panel, reviewing medicines or considering further risk assessment. An isolated HDL result rarely determines treatment by itself.

An abnormal HDL result is not usually an emergency. Seek emergency care for symptoms such as new chest pressure, severe shortness of breath, fainting, or sudden weakness or difficulty speaking, regardless of your cholesterol results.

Common questions

Can I drink coffee before an HDL test?

If you are not fasting, coffee is usually allowed. If you have been told to fast, have only water

unless the laboratory specifically says that black coffee is acceptable. Milk, cream and sugar break a fast.

Does the time of day matter?

HDL can vary slightly during the day, but timing is not usually important for routine testing. If results are being compared over time, using similar conditions may make small changes easier to interpret.

Can I exercise before the test?

Ordinary daily activity is generally fine. Avoid unusually strenuous exercise immediately beforehand if you want the result to reflect your usual state, particularly when repeating an unexpected test.

Do I need to stop my medicines?

No, unless the clinician ordering the test gives specific instructions. Bring or provide an up-to-date list of prescription medicines, non-prescription products and supplements.

Why is my HDL high if I do not exercise much?

Genes, alcohol intake, hormones, medicines and some medical conditions can all affect HDL. A high result does not reveal the cause and does not by itself show your overall cardiovascular risk.

Can a home cholesterol test measure HDL accurately?

Some home tests estimate or measure HDL, but their accuracy and quality controls differ. Follow the kit instructions carefully. A surprising result or one that may affect treatment should usually be confirmed by an accredited laboratory.

Sources

- MedlinePlus: Cholesterol Levels Test , US National Library of Medicine
- Centers for Disease Control and Prevention: About Cholesterol , reviewed May 2024
- 2018 AHA/ACC Guideline on the Management of Blood Cholesterol , Circulation . 2019;139:e1082-e1143
- Fasting Is Not Routinely Required for Determination of a Lipid Profile , European Atherosclerosis Society and European Federation of Clinical Chemistry and Laboratory Medicine consensus statement, European Heart Journal . 2016;37:1944-1958

- Seven Direct Methods for Measuring HDL and LDL Cholesterol Compared with Ultracentrifugation Reference Measurement Procedures , Clinical Chemistry . 2010;56:977-986
- 2019 ESC/EAS Guidelines for the Management of Dyslipidaemias , European Heart Journal . 2020;41:111-188