LDL Cholesterol

High levels of LDL (or "bad") cholesterol can increase the risk for heart attack and stroke. This report is based on a genetic model that includes more than 2,000 genetic variants but does not include variants linked to familial hypercholesterolemia (FH), which have a large impact on LDL cholesterol levels.

Jamie, your genetic result is associated with an increased likelihood of developing high LDL cholesterol.

An estimated 65% of males with genetic results like yours develop high LDL cholesterol by their 70s. This is based on data from 23andMe research participants of European descent.

This estimate is based on currently available data and may be updated over time.

Ways to take action

Your overall likelihood of developing high LDL cholesterol also depends on other factors, including lifestyle. Experts agree that healthy lifestyle habits can help lower the chances of developing this condition.

- Eat a heart-healthy diet
- Exercise regularly
- Maintain a healthy weight

Getting regular cholesterol screening is also important, since LDL cholesterol levels tend to increase with age. Maintaining healthy cholesterol levels can help lower your risk for heart disease.

Start taking action

About LDL cholesterol

What is high LDL cholesterol?

Low-density lipooprotein (LDL) helps carry cholesterol from the liver to the rest of the body. A high LDL level is a risk factor for heart disease.

LDL cholesterol ranges for adults

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<thead>
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<th>Range</th>
<th>Description</th>
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<tr>
<td>Optimal</td>
<td>Less than 100 mg/dL</td>
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your liver (where it’s made) to the other cells in your body. Cholesterol is necessary to help your body build cells, make hormones, and carry out other tasks. But if there’s too much LDL cholesterol in the blood, it can build up on the walls of blood vessels, making it harder for blood to flow to the heart, brain, and other parts of the body.

Although high LDL cholesterol is often defined as levels of 160 mg/dL (said “milligrams per deciliter”) or greater, the levels that are considered “high” also depend on a person’s other risk factors for heart disease.

How can high LDL cholesterol impact your health?

High LDL cholesterol can increase the risk for heart disease, stroke, peripheral artery disease (narrowing of blood vessels outside the heart that can lead to symptoms like calf pain), and other health problems. But people with high LDL cholesterol may have no symptoms initially, which means it’s important to get regular screening. Depending on your LDL cholesterol levels and whether you have other risk factors for heart disease and stroke, your doctor may recommend medications and/or lifestyle changes to help lower your cholesterol.

Estimate your risk* for complications of heart disease, including stroke. This tool from the American Heart Association uses non-genetic factors, and is for individuals who are at least 40 years old.

Other factors that can impact your chances of developing high LDL cholesterol

According to the Centers for Disease Control and Prevention, about 55% of people in the U.S. will develop high cholesterol by their 70s. Besides genetics, weight, and lifestyle, some factors that can increase a person’s chances of developing high LDL cholesterol include:

- Age (LDL cholesterol levels tend to increase with age, reaching a peak at age 50-60 in men and age 60-70 in women)
- Family history of high cholesterol
- Being pregnant
- Certain health conditions (such as hypothyroidism)
- Currently taking certain medications (including some medications used to treat high blood pressure and others used to treat viral infections)

Keep in mind

This report does not diagnose high LDL cholesterol. Consult with a healthcare professional if you are concerned about your likelihood of developing high LDL cholesterol; have a personal or family history of high cholesterol, heart disease, or stroke; or before making any major lifestyle changes.

If you have already been diagnosed with high LDL cholesterol by a healthcare professional, it is important to continue any treatment plans.

The likelihood of developing high LDL cholesterol also depends on other factors, including age, lifestyle, and family history.

This report does not account for every possible genetic variant that could affect your likelihood of developing high LDL cholesterol, and it does not provide a personalized risk score.

This report is based on a genetic model created using data from 23andMe research participants and has not been clinically validated.
including medications and lifestyle modifications, that they prescribe. not include variants linked to familial hypercholesterolemia (FH).

How we got your result

Methods
This report is based on a statistical model that takes into account your genetic results at 2,950 genetic markers, along with the ethnicity and sex you reported in your account settings, to estimate the likelihood of developing high LDL cholesterol. We used data from 23andMe research participants as well as data reported in the scientific literature to calculate this estimate. Results and estimates may be updated over time as the model or scientific understanding about this condition improves. Note that this report does not include rare genetic variants that have a large impact on LDL cholesterol levels, such as variants linked to familial hypercholesterolemia (FH).

About the result
People whose result is associated with odds of developing high LDL cholesterol that are at least 1.5 times higher than average are considered to have an increased likelihood. Between 10% and 23% of individuals receive an “increased likelihood” result, depending on ethnicity. These results are based on thousands of genetic markers, and random test error at one or more of these markers can lead to a small margin of error in your estimated likelihood of developing high LDL cholesterol. For people whose estimates are near the boundary between typical and increased likelihood, this margin of error may introduce some uncertainty about whether their estimated likelihood is considered “typical” or “increased”. Your genetic result is associated with an increased likelihood. Based on the available genetic markers used to calculate your result, there is a less than 1% chance your genetic likelihood estimate could fall on the other side of the boundary and be in the range that is considered typical.

Scientific validity across ethnicities
We verified that the model meets our scientific standards for individuals of European, Hispanic/Latino, East/Southeast Asian, South Asian, Sub-Saharan African/African American, and Northern African/Central & Western Asian descent.

How we may use ethnicity and sex to customize this result
- If you indicated in your account settings that you are of European, Hispanic/Latino, East/Southeast Asian, South Asian, Sub-Saharan African/African American, or Northern African/Central & Western Asian (Middle Eastern) descent, your result is tailored based on data from individuals of that ancestry.
- Otherwise, your result may be based on data from individuals of European descent because there is not enough data from individuals of your ancestry at this time. Data from individuals of European descent is used because the most data is available for this population.
- Your LDL Cholesterol result also takes into account the sex you indicated in your account settings.

See our white paper to learn more about the science behind this report.

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