

Late-Onset Alzheimer's Disease

Alzheimer's disease is characterized by memory loss, cognitive decline, and personality changes. Late-onset Alzheimer's disease is the most common form of Alzheimer's disease, developing after age 65. Many factors, including genetics, can influence a person's chances of developing the condition. This test includes the most common genetic variant associated with late-onset Alzheimer's disease.

Lois, you have two copies of the ε4 variant we tested. People with this result have an increased risk of developing late-onset Alzheimer's disease. Lifestyle, environment, and other factors can also affect your risk.

Variant detected in the APOE gene

How To Use This Test

This test does not diagnose Alzheimer's disease or any other health conditions.

Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Review the Genetic Health Risk tutorial See Scientific Details See Frequently Asked Questions

Intended Uses

Tests for the ε4 variant in the APOE gene associated with an increased risk of developing late-onset Alzheimer's disease.

Limitations

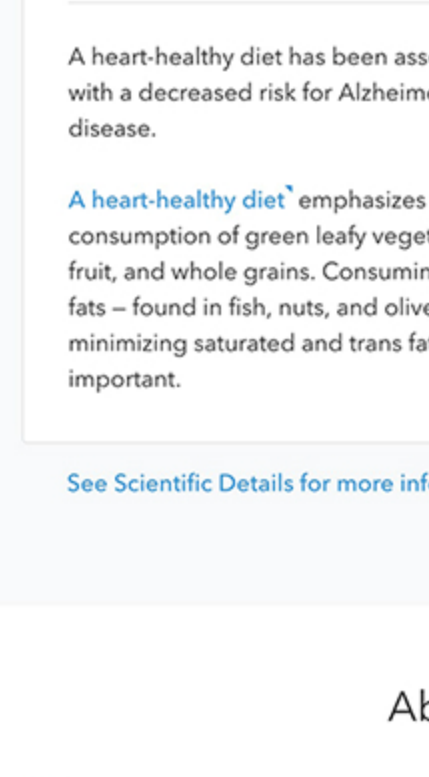
Does not include all possible variants or genes associated with late-onset Alzheimer's disease. Does not include any variants or genes linked to early-onset Alzheimer's disease. Does not determine a person's full APOE genotype.

Important Ethnicities

The ε4 variant included in this test is found and has been studied in many ethnicities. Detailed risk estimates have been studied the most in people of European descent.

You may have an increased risk of developing late-onset Alzheimer's disease based on your genetic result.

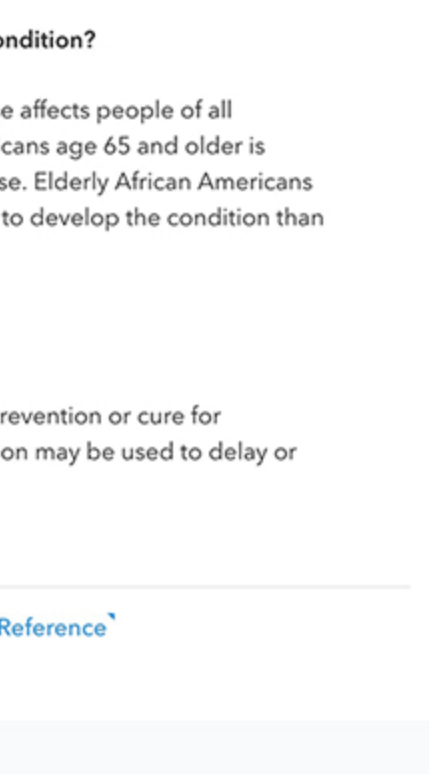
However, many people with this result do not develop late-onset Alzheimer's disease. Consider discussing your risk with a healthcare professional, especially if you have a family history or other risk factors for this condition.



We detected two copies of the ε4 variant in the APOE gene. See Scientific Details

Although your risk may be increased, not many people with this variant do not develop late-onset Alzheimer's disease.

Studies estimate that an average woman of European descent with this result has a 28% chance of developing late-onset Alzheimer's disease by age 75 and a 60% chance by age 85. There is not enough data to estimate the chances in women of other ethnicities.



Non-genetic factors may also influence your risk of developing late-onset Alzheimer's disease.

Even though nothing has been proven to prevent Alzheimer's disease, some studies suggest that eating a healthy diet and staying physically and mentally active is linked to a reduced risk of developing late-onset Alzheimer's disease.

Research is ongoing to understand what causes Alzheimer's disease and to find effective treatments. See Resources for more information.

Lifestyle and other factors can also influence the chances of developing late-onset Alzheimer's disease.

Consult with a healthcare professional before making any major lifestyle changes.

Infographic showing factors like Diet, Age, Sex, Family history, Heart health, Intellectual activity

About Late-Onset Alzheimer's Disease

When it develops: Late-onset Alzheimer's disease develops after 65 years of age. Typical signs and symptoms: Memory loss that worsens over time, Mood and personality changes, Trouble planning or solving problems, Confusion with place or time, Difficulty performing daily life activities.

How common is the condition?: Late-onset Alzheimer's disease affects people of all ethnicities. One in nine Americans age 65 and older is affected by Alzheimer's disease. Elderly African Americans and Hispanics are more likely to develop the condition than people of other ethnicities. How it's treated: There is currently no known prevention or cure for Alzheimer's disease. Medication may be used to delay or ease symptoms.

Read more at: Alzheimers.gov, National Institute on Aging, GeneReviews, Genetics Home Reference

Consider sharing this result with a healthcare professional, especially if you have other risk factors.

If you have a family history of this condition or think you have symptoms, consult with a healthcare professional.

Print report

If you have questions about your results or how they might affect you or your family, a genetic counselor may be able to help.

Learn more

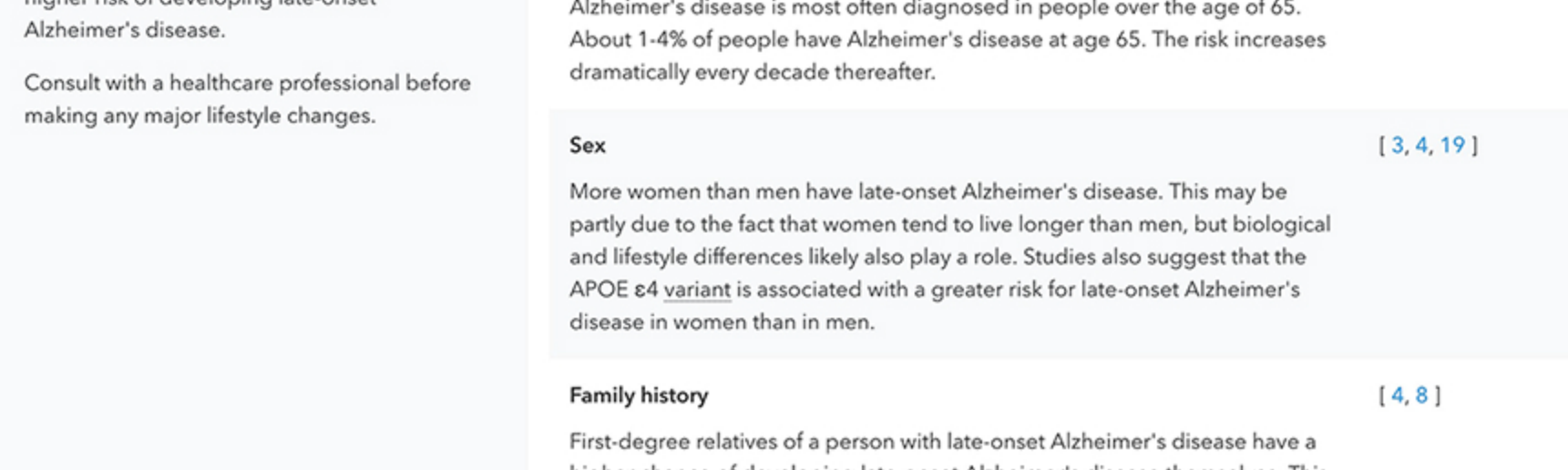
See our Frequently Asked Questions for more information.

FAQs

Late-Onset Alzheimer's Disease

Alzheimer's disease is characterized by memory loss, cognitive decline, and personality changes. Late-onset Alzheimer's disease is the most common form of Alzheimer's disease, developing after age 65. Many factors, including genetics, can influence a person's chances of developing the condition. This test includes the most common genetic variant associated with late-onset Alzheimer's disease.

The ε4 variant in the APOE gene is the most common genetic factor associated with late-onset Alzheimer's disease.



The APOE gene contains instructions for making a protein called apolipoprotein E. This protein helps control the levels of cholesterol and fats in the blood. It is not known exactly how the ε4 variant increases the risk of late-onset Alzheimer's disease. Read more at Genetics Home Reference

You have two copies of the ε4 variant we tested.

Table showing Variants Detected (ε4) and View All Tested Markers. Includes biological explanation and references.

Test Interpretation

This report provides risk estimates for people of European, African American, East Asian, and South Asian descent. Estimates for other ethnicities are not currently available.

Health Risk Estimates table with columns for Lifetime risk, Likelihood ratios, Odds ratios. Rows for General population, No ε4 variants, One copy of ε4 variant, Two copies of ε4 variant.

Other Factors

Other factors besides the ε4 variant can influence your chances of developing late-onset Alzheimer's disease.

Infographic showing other factors: Age, Sex, Family history, Heart health, Diet, Intellectual activity, Exercise, Ethnicity, Other genes.

Test Details

Indications for Use: The 23andMe PGS Genetic Health Risk Report for Late-Onset Alzheimer's Disease is indicated for reporting of the ε4 variant in the APOE gene. Warnings and Limitations: This test does not cover all variants that could cause this condition. Share results with your healthcare professional for any medical purposes.

Professional Performance Summary: Clinical Performance: Approximately 40-65% of Alzheimer's patients have one or two copies of the APOE ε4 variant. Analytical Performance: Accuracy was determined by comparing results from this test with results from sequencing for 544 samples.

References

List of 27 references including studies on APOE ε4 variant, Alzheimer's disease risk factors, and genetic testing.

Change Log

Your report may occasionally be updated based on new information. This Change Log describes updates and revisions to this report.

Change Log table with columns: Date, Change

Frequently Asked Questions

Alzheimer's disease is characterized by memory loss, cognitive decline, and personality changes. Late-onset Alzheimer's disease is the most common form of Alzheimer's disease, developing after age 65. Many factors, including genetics, can influence a person's chances of developing the condition. This test includes the most common genetic variant associated with late-onset Alzheimer's disease.

FAQ: What does this test do? This test looks for the ε4 variant in the APOE gene associated with late-onset Alzheimer's disease. People with the ε4 variant are more likely to develop late-onset Alzheimer's disease.

FAQ: What does this test not do? This test does not diagnose late-onset Alzheimer's disease. Only a healthcare professional can do that. This test does not tell you if you have Alzheimer's disease or if you will definitely develop the condition in the future.

FAQ: Where can I learn more about Alzheimer's disease, support groups, and other resources? You can learn more about Alzheimer's disease from the following resources: Alzheimer's Association, Alzheimer's Society, Alzheimer Forum, Alzheimer's Association Facts and Figures.

FAQ: My report says I have two copies of the ε4 variant associated with late-onset Alzheimer's disease. What are some things I could do? This means you have two copies of the ε4 variant we tested. You inherited one copy of this variant from each of your parents. People with this result have an increased risk of developing late-onset Alzheimer's disease.

FAQ: What does increased risk mean? An "increased risk" means that, based on your genetic result for this test, your chances of developing late-onset Alzheimer's disease are higher than average.

FAQ: My report says I have two copies of the ε4 variant associated with late-onset Alzheimer's disease. What are some things I could do? This result is associated with an increased risk of developing late-onset Alzheimer's disease. Consider sharing this result with a healthcare professional, such as a physician or a genetic counselor.

FAQ: How could my result affect my family? Since you share DNA with your family members, they may also be interested in your result. If you are thinking about talking to family members about your results, see this article for a discussion of things to consider before having the conversation.

FAQ: I have questions about my results. Who should I talk to? It is normal to have questions or concerns after viewing this report. Some people feel anxious, upset, or worried about their risk or risk for their family members. Others simply want to understand their results better or talk to someone about what they can do.

FAQ: Have more questions? Check out our Customer Care Help Center.