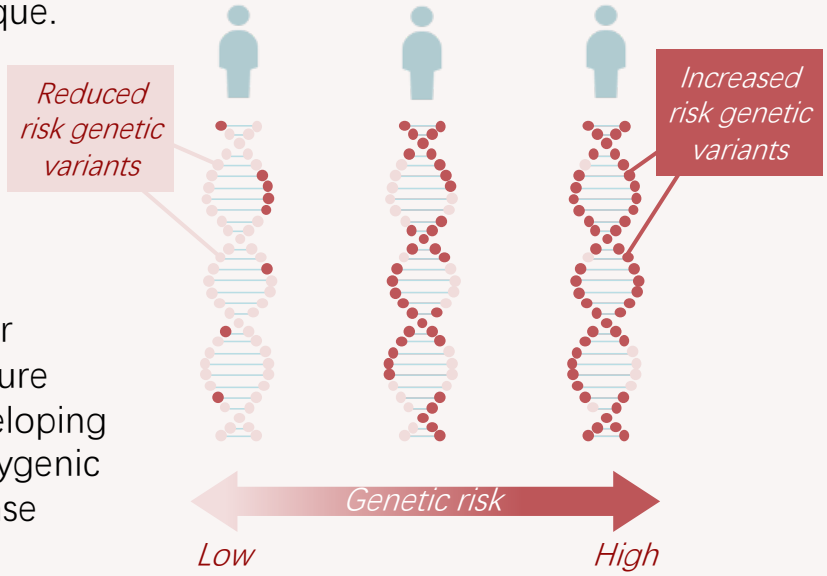
# OurHealth PRS — UNDERSTANDING POLYGENIC RISK

## What is a polygenic risk score?

Your genes contain the instructions that tell our bodies how to grow and function. These instructions are referred to as your DNA. Everyone has thousands of differences in their DNA, called genetic variants, that make them unique.

A **polygenic risk score** combines many genetic variants across thousands of genes into a single number. This number captures part of a person's genetic risk of developing a health condition.




Genetic risk can be used together with other known risk factors such as high blood pressure and family history to predict the risk of developing certain health conditions. Knowing your polygenic risk score can be helpful in preventing disease starting at an early age.

## What can polygenic risk scores predict?

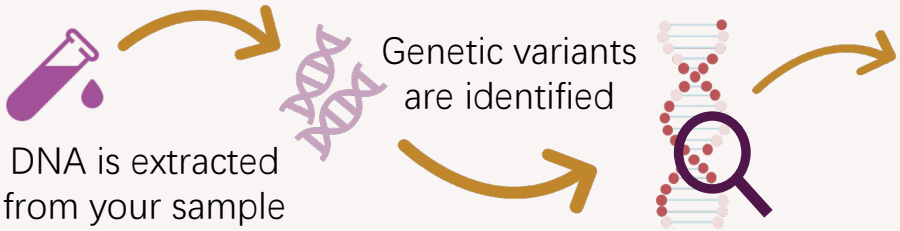
Polygenic risk tests provide information about your genetic risk of developing a health condition compared to the average person. **Polygenic risk scores only provide an estimate of your risk of developing a health condition.** There are many other factors that could affect your overall risk of different health conditions that are not included in this score, such as other medical conditions, rare genetic variants, and lifestyle habits.

**This is not a diagnostic test.** It does not determine who will develop the condition being assessed and who will not. You may or may not ever develop the condition regardless of your score. If you already have the condition being assessed, your score may help you understand how your genetic background contributed to developing it and may help inform your and/or your family members' medical care.

## Are polygenic risk scores equally accurate for everyone?

Polygenic risk scores work best for people most similar to those represented in genetic studies. Most participants in genetic studies to date are genetically similar to populations from Europe. This means that these scores are currently more predictive in these individuals. The polygenic risk score for coronary artery disease that we use in this study has been shown to work equally well in South Asians.

## How are polygenic risk scores calculated?




Your polygenic risk score is calculated by combining the risk effects of the genetic variants in your DNA. We report your score as a **percentile** along with its associated risk. This risk is called an **odds ratio**.

## What can a percentile and odds ratio tell me about my risk?

A percentile helps you see how your risk compares to other people. We use percentiles to group individuals into categories of risk.

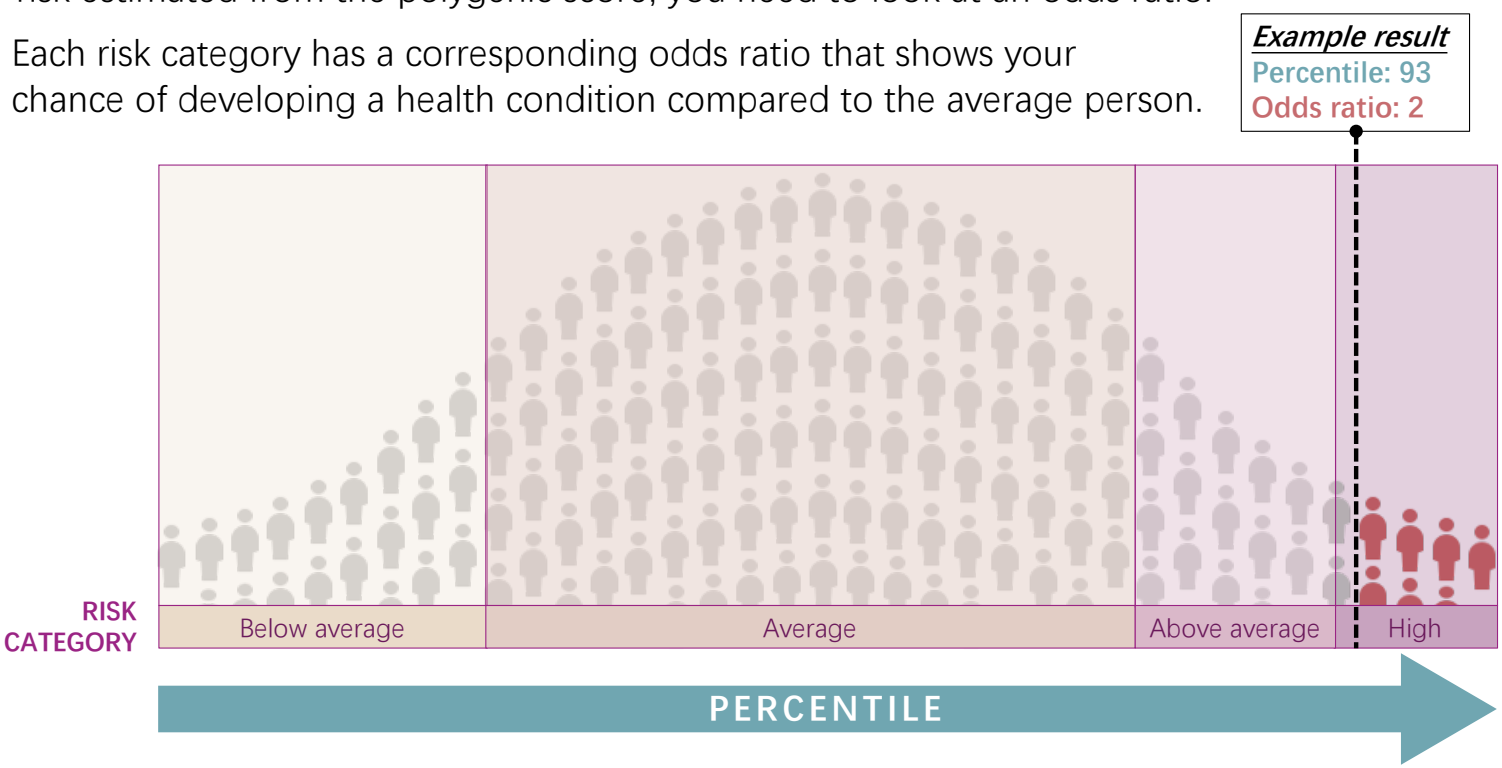
In the example below, there are four risk categories for the percentile range of the condition being tested.

If you are in the 93rd percentile, as shown in the example result, it means you have a higher polygenic score than 92% of the population. It does not mean you have a 93% chance of developing the condition.

| Percentile range | Risk category |
|---|---|
| 0 – 25th | Below average |
| 26th – 75th | Average |
| 76th – 90th | Above average |
| 91st – 100th | High |

A percentile by itself will not tell you how high or low your risk is. To determine your actual risk estimated from the polygenic score, you need to look at an odds ratio.

Each risk category has a corresponding odds ratio that shows your chance of developing a health condition compared to the average person.




For example, being in the **93rd percentile** for the condition above would place you in the high-risk group. If the high-risk group for this condition has an **odds ratio of 2**, this would mean that you are **2 times more likely** to develop the condition than the average person.