SelfDecode™

Ear Infection

DNA Health Report

REPORT CATEGORY —

IMMUNITY & INFECTIONS

Sample Client

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Table of Contents

03 How this works

04 Impact

05 Evidence

06 Some things to keep in mind

07 Introduction

08 Your genetics

09 Your recommendations

13 Next Steps

13 Your Lab Results

14 Your lifestyle assessments

Personal information

NAME

Sample Client

SEX AT BIRTH

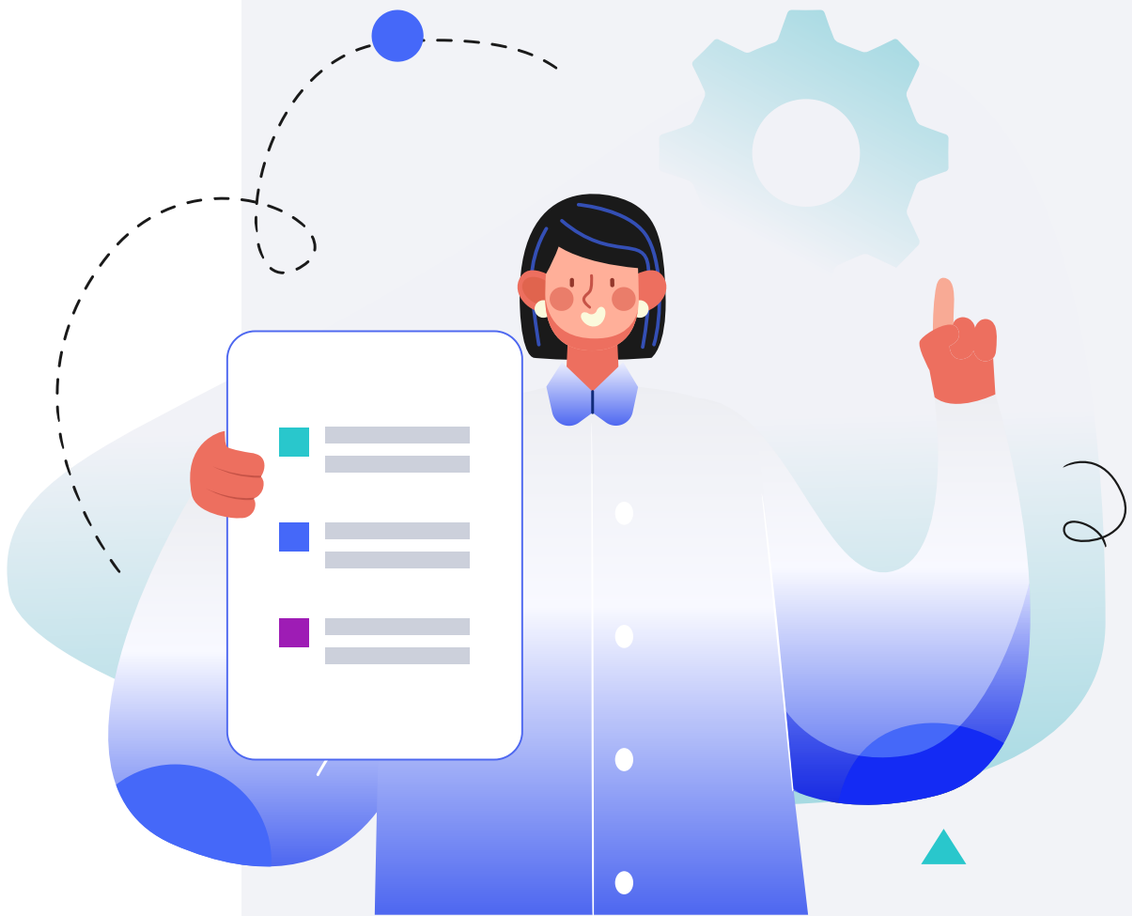
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

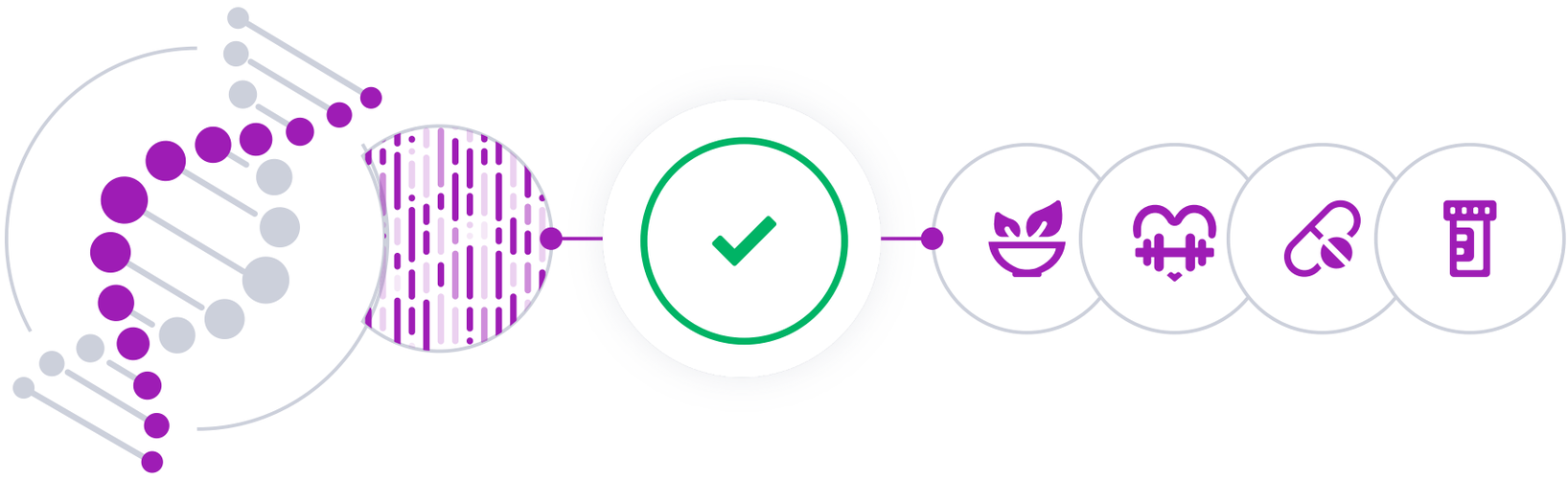


DISCLAIMER

This report does not diagnose this 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.

How this works

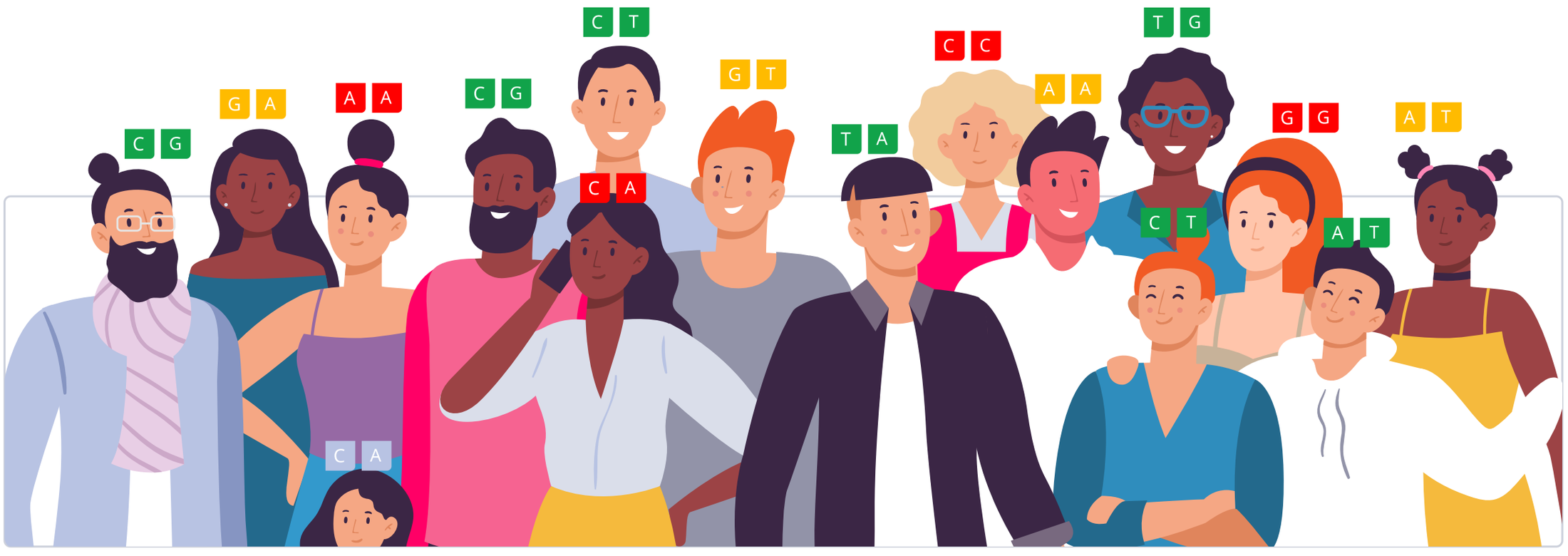
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.

Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

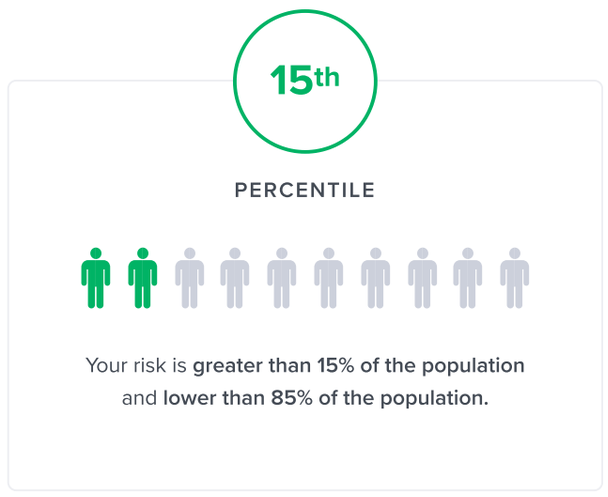
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information. We then summarize your results as a risk score or display it on a gauge.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:

In total, we analyze up to 83 million genetic variants.



Genotype color info: AA You don't have any risk alleles | AA You have 1 risk allele | AA You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:

Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):

Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

0 / 5

No evidence in humans.

Genotype-specific Evidence

High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, afew large clinical trials, or a meta-analysis).

Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

An ear infection, medically referred to as otitis, is an inflammation or infection of the inner, middle, or outer ear. The ones affecting the middle ear are the most common and can be caused by viruses, bacteria, or occasionally fungi. They are more common in children but can occur at any age.

Symptoms of an ear infection can vary depending on which part of the ear is affected:

- **Middle Ear** (Otitis Media): Symptoms may include ear pain, hearing loss, fluid drainage from the ear, fever, and irritability in children.
- **Outer Ear** (Otitis Externa or Swimmer's Ear): Symptoms may include ear pain (especially when touching or tugging the earlobe), itching, discharge, and sometimes swelling.

Risk Factors and Genetics

Factors that might increase the risk of developing an ear infection include:

- Age, with children between the ages of 6 months and 2 years being particularly susceptible.
- Group child care, as children cared for in group settings are more likely to catch colds and ear infections.
- Seasonal factors, as ear infections are more common during the fall and winter.
- Having allergies, which can lead to more ear infections due to swelling and congestion in the nasal passages.
- Sinus infections or other respiratory infections, which can spread to the middle ear.

Some studies suggest that the tendency to get recurrent ear infections can run in families, indicating a possible genetic predisposition. Certain genetic factors might affect the anatomy of the ear or the immune system's ability to respond to infections, increasing the risk of ear infections.

LESS LIKELY

Less likely to get an ear infection based on 1,673 genetic variants we looked at

19th

PERCENTILE

Your risk is **greater than 19% of the population** and **lower than 81% of the population.**

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

		DOSAGE
1	Lactobacillus Rhamnosus	10 billion CFU
2	Lactobacillus Rhamnosus GG	10 billion CFU
3	Avoid Loud Noises	
4	Nasal Cleansing	
5	Lactobacillus Salivarius	10 billion CFU

1 Lactobacillus Rhamnosus

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take a probiotic supplement containing Lactobacillus rhamnosus. Typically, the suggested dose is 10 billion CFUs (colony-forming units) per day. This can be taken as a single daily dose or divided into two doses, morning and evening, with or without food. Continue this regimen for at least 4 weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus rhamnosus is a probiotic bacterium, part of the normal gut microflora. Various foods may have added *L. rhamnosus*, including yogurt, cheese, and fermented legumes [R, R].

People take *L. rhamnosus* supplements to balance their immune system and help with infections, allergies, and dermatitis [R].

How it helps

A meta-analysis of 4 trials and 1805 participants concluded that supplementation with *Lactobacillus rhamnosus* GG reduces the incidence of upper respiratory infections and otitis media in children. Another meta-analysis (3 trials and 1295 participants) found that this strain also reduces the duration of respiratory infections (by 0.78 days) [R, R].

2 Lactobacillus Rhamnosus GG

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus GG (LGG) is a probiotic that has been shown to have a number of health benefits, including reducing the risk of diarrhea, improving gut health, and boosting the immune system. LGG can be taken as a supplement or found in some yogurts and other fermented foods.

How it helps

A meta-analysis of 4 trials and 1805 participants concluded that supplementation with *Lactobacillus rhamnosus* GG reduces the incidence of upper respiratory infections and otitis media in children. Another meta-analysis (3 trials and 1295 participants) found that this strain also reduces the duration of respiratory infections (by 0.78 days) [R, R].

3

Avoid Loud Noises

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Limit exposure to loud noises by keeping the volume down on personal audio devices, wearing earplugs at concerts or noisy work environments, and taking breaks in quiet areas when possible. Attempt to maintain noise levels below 85 decibels, especially for prolonged periods, to protect your hearing.

Description

Most sounds you're exposed to daily are quiet. However, there are times when sounds can be uncomfortably loud. **Exposure to loud noise for long periods of time can damage the cells of the inner ear**. This may lead to hearing impairment and conditions like tinnitus.

Exposure to loud noises may damage the inner ear or the auditory nerve. This may lead to hearing impairment or conditions like tinnitus [R, R].

Potentially damaging noises can be anything at a volume **above 70 decibels** (dB). The louder the noise, the less time it takes to cause damage to your ear. For reference, some volume levels of common sounds include [R, R]:

- Whispering (30 dB)
- Normal conversation (60-70 dB)
- Motorcycle (95 dB)
- Ambulance siren (110-129 dB)
- Fireworks, gunshots (140-165 dB)

How it helps

Avoiding loud noises helps mitigate inflammation and discomfort in the ear during an infection, minimizing disruption to healing processes. Additionally, it protects against further auditory damage, which can exacerbate symptoms and delay recovery.

4

Nasal Cleansing

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Perform nasal cleansing using a saline solution twice a day, in the morning and evening. Tilt your head sideways over a sink and gently pour the saline solution into the upper nostril, allowing it to flow out of the lower nostril, then switch sides.

Description

Nasal cleansing, often done using saline solutions or neti pots, helps clear nasal passages, alleviate congestion, and reduce allergy symptoms, promoting better respiratory comfort and improved breathing.

Nasal cleansing involves rinsing your nasal passages with a sterile salt solution. This is done with a squeeze bottle or a teapot-like container called a neti pot [R, R, R].

People mainly use nasal cleanses to relieve a stuffy nose, which may be caused by [R, R]:

- Allergies
- Colds
- Sinus problems

How it helps

Nasal cleansing addresses congestion in the upper respiratory tract, facilitating better drainage of fluid and pressure from the Eustachian tubes, which may alleviate discomfort associated with ear infections.

5

Lactobacillus Salivarius

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a probiotic supplement containing Lactobacillus salivarius daily, preferably with a meal to enhance absorption. The exact dosage can vary, but a common amount is around 10 billion CFUs (colony forming units). It is generally recommended to continue taking the probiotic for at least four weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus saliverius is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

In a non-placebo-controlled trial of 61 children with recurrent acute otitis media, supplementation with L. salivarius PS7 (10^9 cfu/day for 12 months) reduced the number of otitis episodes [R].

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

WBC	6.92 x10^3/mm3	2 – 4 – 6.5 – 11 – 40	9 Nov 2025
Zinc	17.12 umol/L	7.65 – 9.18 – 12.24 – 19.89	9 Nov 2025
Vitamin D, 25-Hydroxy, Total	58.59 ng/mL	10 – 20 – 30 – 75 – 150	9 Nov 2025
Albumin	4.3 g/dL	3.4 – 4.4 – 5.5	9 Nov 2025

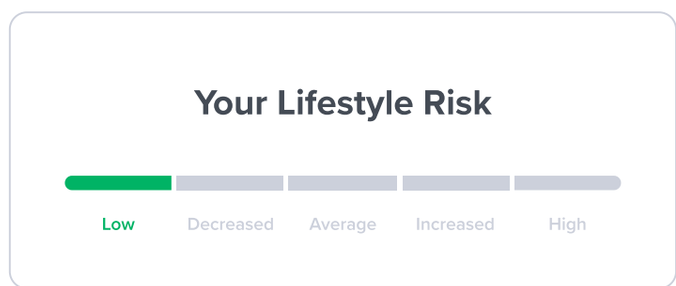
Your Lifestyle Assessments

Ever heard of the term Nature vs. Nurture?

The thing is, both DNA and environment play a role in determining your health risks. The following assessments shows how much of an impact your lifestyle, environment and medical history are having on your health risks.

LIFESTYLE

You have a reduced risk of ear infection (otitis media) based on the answers you provided.



Factors impacting your risk:

Do you snore?

Yes

Increasing Risk

Do you have a parent or sibling who has ever had an ear infection (otitis media)?

No

Decreasing Risk

Are you often exposed to second-hand smoke in your home or at work?

No

Decreasing Risk

Have you ever been diagnosed with allergic rhinitis (hay fever)?

No

Decreasing Risk

Do you smoke tobacco?

No, never

Decreasing Risk

Do you currently have an upper respiratory infection?

No

Decreasing Risk

What is your annual household income in USD?

More than $20,000

Decreasing Risk

Have you already had an ear infection in the past?

No

Decreasing Risk