SelfDecode™

Pneumococcal Disease

Disease Report

REPORT CATEGORY

RESPIRATORY HEALTH

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

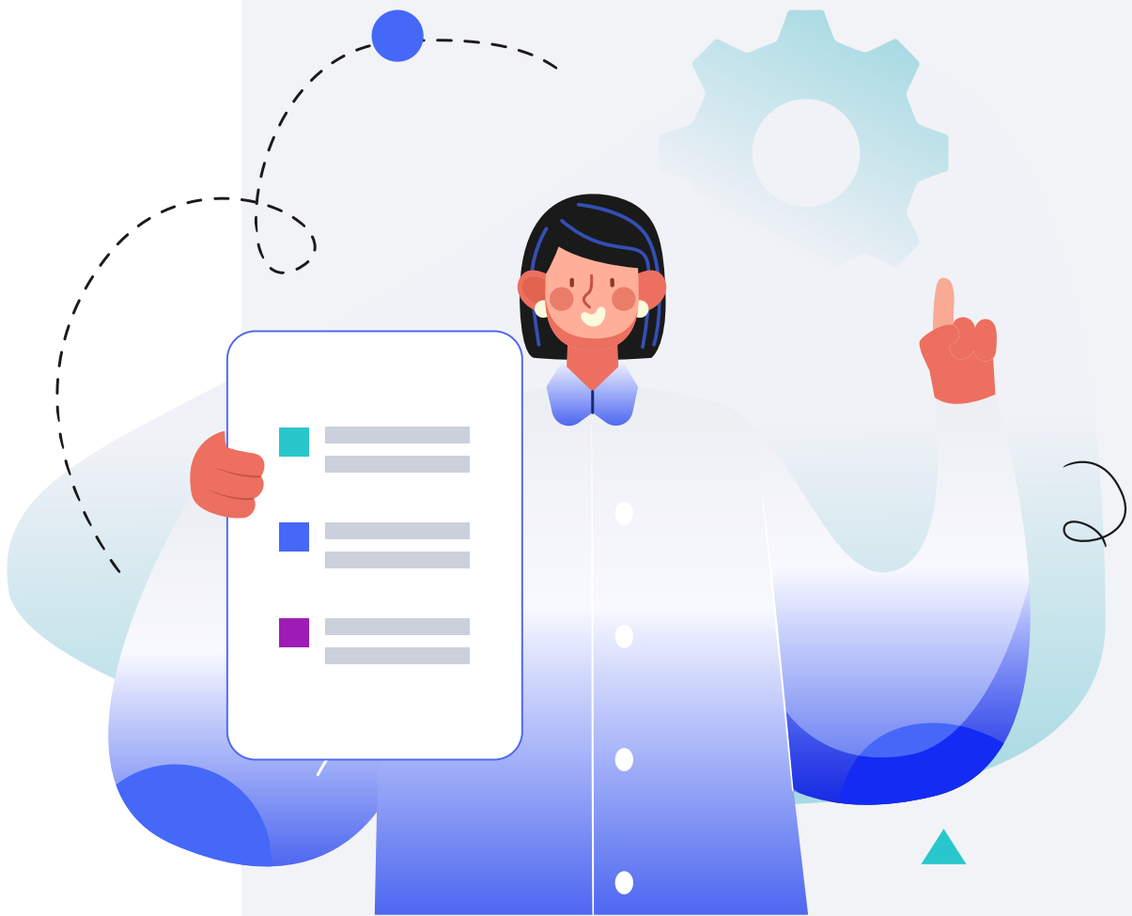
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

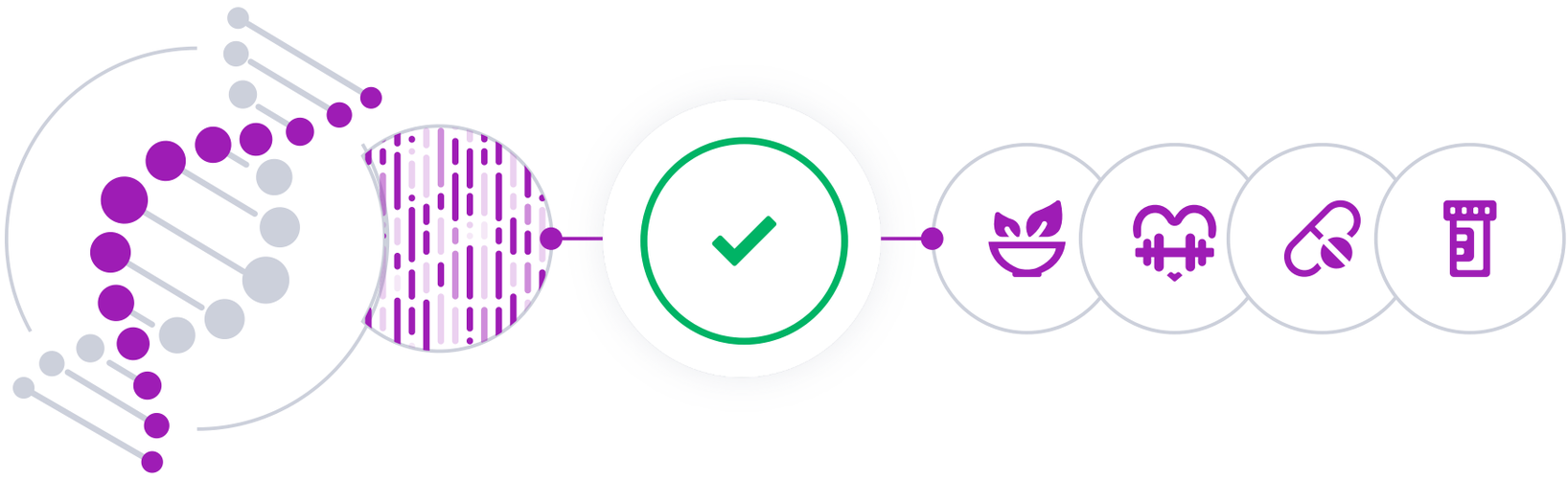


DISCLAIMER

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

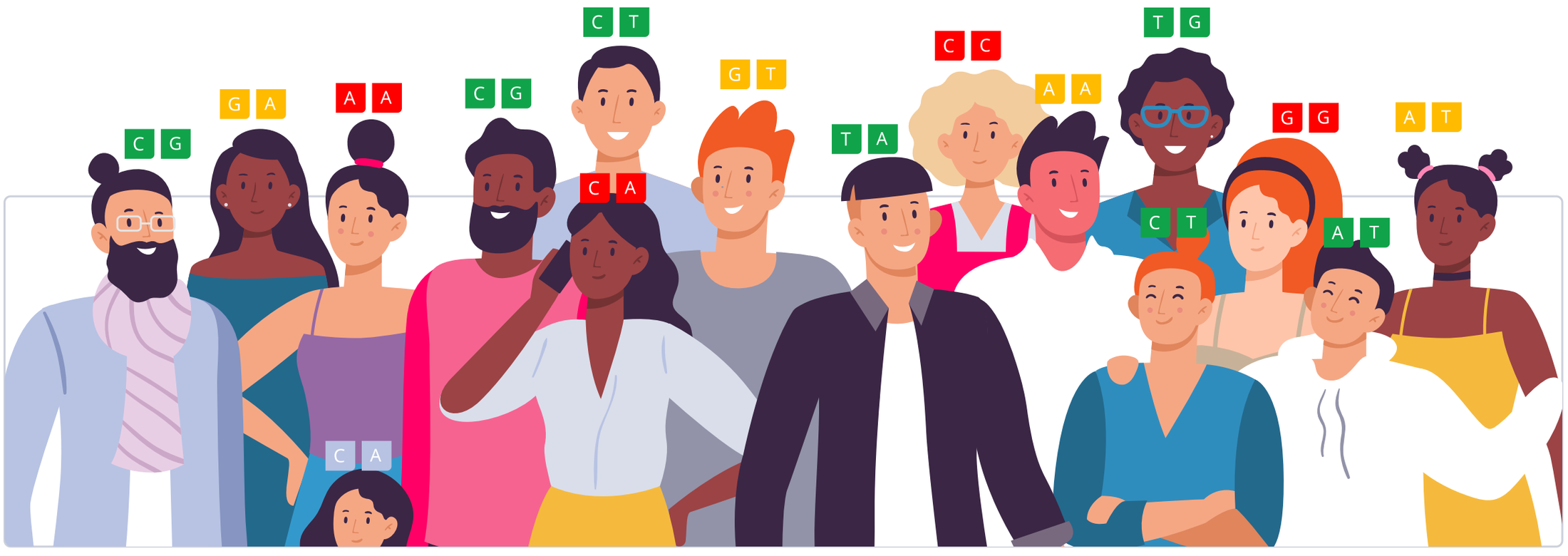
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

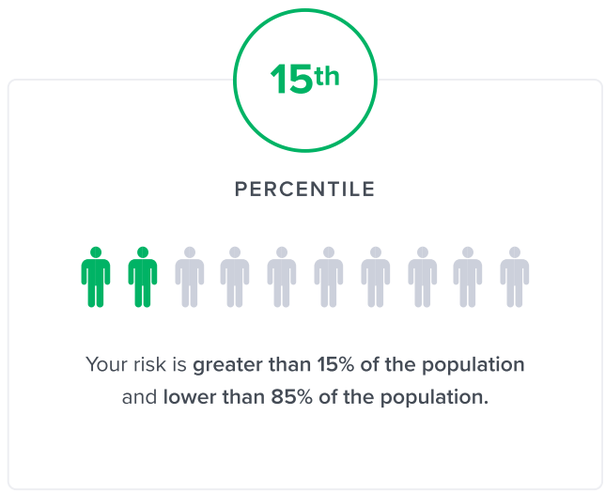
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Pneumococcal disease refers to infections caused by the bacterium *Streptococcus pneumoniae*, also known as pneumococcus. This pathogen can cause a range of serious illnesses, particularly in infants, older adults, and people with weakened immune systems.

The infections can range from ear and sinus infections to more severe diseases such as pneumonia, bacteremia (an infection of the bloodstream), and meningitis (an infection of the coverings of the brain and spinal cord). Pneumococcal pneumonia is the most common clinical presentation of pneumococcal disease in adults and is characterized by symptoms such as high fever, chills, cough, and difficulty breathing.

Prevention

The impact of pneumococcal disease is significant due to its potential for severe complications and high rates of hospitalization and mortality, particularly among high-risk populations. It is preventable through vaccination, which is a crucial public health measure to control the spread of this infection.

The pneumococcal vaccine is effective in preventing many types of pneumococcal disease and is part of the recommended vaccination schedule for children and recommendations for adults with certain risk factors. Despite available vaccines, pneumococcal disease continues to be a major health concern, highlighting the need for increased vaccination coverage and awareness of this potentially life-threatening condition.

MORE LIKELY

More likely to have pneumococcal disease based on 1,107,505 genetic variants we looked at

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	Maintain Optimal Vitamin D Levels	1000 iu
2	Avoid Crowds	
3	Elderberry	
4	Regular Hand Washing	
5	Dietary Zinc	
6	Dietary Omega-3 Fatty Acids	
7	Good Oral Hygiene	2 minutes
8	Dietary Vitamin C	

1

Maintain Optimal Vitamin D Levels

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs vitamin D for strong bones. Vitamin D also plays a role in [R]:

- Mood
- Immunity
- Heart health
- Blood sugar control

Sunlight is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [R, R].

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [R].

How it helps

Vitamin D has been shown to enhance the killing of pneumococci by neutrophils, a type of white blood cell that fights infection, while also modulating inflammatory responses to reduce excessive immune reactions, suggesting potential benefits in treating pneumococcal infections [R].

Another study demonstrated that vitamin D can modulate key elements of innate immunity and dampen adaptive immune responses, which may help in the prevention and treatment of pneumococcal infections [R].

A systematic review of randomized controlled trials studying vitamin D for the treatment or prevention of infectious diseases, including pneumococcal diseases, found that while there is a need for more rigorously designed clinical trials, existing data suggests potential benefits of vitamin D as adjunctive therapy in infectious settings [R].

Vitamin D plays a crucial role in enhancing the body's immune response by helping in the production of antimicrobial peptides in the respiratory tract.

2

Avoid Crowds

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Minimize your time in crowded places by scheduling your errands during off-peak hours, avoiding public events known to draw large crowds, and choosing less crowded routes or modes of transportation.

Description

Avoiding crowded environments, especially during contagious disease outbreaks, can reduce the risk of viral transmission and help protect public health. It promotes social distancing measures that are crucial for preventing the spread of infectious diseases.

How it helps

Avoiding crowds helps reduce the risk of pneumococcal disease by minimizing exposure to the bacteria that cause it. This is especially important in enclosed spaces where people are in close contact, as pneumococcal bacteria are spread through respiratory droplets from coughing, sneezing, or talking.

3

Elderberry

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take an elderberry supplement in the form of capsules or liquid extract. The typical dosage range is 300-500mg of elderberry extract taken twice daily for the duration of cold or flu symptoms. Always follow the specific dosage guidelines provided on the supplement's packaging.

Description

Elderberry is a fruit known for its potential immune-boosting properties. Elderberry supplements or syrups are used to support immune health and help reduce the duration and severity of cold and flu symptoms.

Elderberries are the glossy, tart, deep-purple fruits of the European elder (*Sambucus nigra*). They are used to make juices, syrups, jams, jellies, pies, punches, and wines [R, R].

All parts of the elder plant (leaves, flowers, bark, and berries) are used in folk medicine. People mainly take elderberry to help with [R]:

- The flu and other respiratory infections
- Pain, swelling, and inflammation
- Constipation

How it helps

Elderberry has been studied for its immune-boosting effects. It contains compounds that can stimulate the immune system, helping the body to fight off infections like those caused by pneumococcal bacteria. Elderberry supplements, especially when taken at the onset of respiratory symptoms, may reduce the severity and duration of illnesses caused by viruses and possibly bacteria.

4

Regular Hand Washing

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Wash your hands with soap and water for at least 20 seconds, making sure to scrub all surfaces of your hands, including the backs, between your fingers, and under your nails. Do this several times a day, especially before eating, after using the bathroom, after blowing your nose, coughing, or sneezing, and after touching garbage.

Description

Regular hand washing is a simple yet highly effective hygiene practice that helps prevent the spread of infectious diseases and illnesses. It is essential for reducing the transmission of harmful pathogens and maintaining overall health.

How it helps

Regular hand washing is one of the most effective ways to prevent the spread of pneumococcal disease. The bacteria that cause the disease can be found on surfaces and transferred by hands to the mouth or nose. Proper hand hygiene disrupts the transmission of these bacteria.

5

Dietary Zinc

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods high in zinc, such as beef, poultry, seafood (especially oysters), beans, nuts, and whole grains, into your daily diet. Aim for the recommended dietary allowance of zinc, which is 11 mg per day for adult men and 8 mg per day for adult women.

Description

Dietary zinc is essential for the body. It helps our immune system fight off bacteria and viruses, plays a role in healing wounds, and is essential for our sense of taste and smell. Without enough zinc, these systems may not work as effectively as they should.

How it helps

Zinc plays a crucial role in maintaining immune system health. Zinc deficiency has been linked to increased susceptibility to infections, including those caused by bacteria like Streptococcus pneumoniae, which leads to pneumococcal disease.

6

Dietary Omega-3 Fatty Acids

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

Omega-3 fatty acids are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [R, R, R].

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for mental and heart health** [R, R, R].

Fatty fish are rich in EPA and DHA. They include [R]:

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, try to get at least **two servings of fatty fish per week.** Fish oil supplements are available for those who don’t eat fish regularly [R].

How it helps

Omega-3 fatty acids have anti-inflammatory properties that can help modulate the immune response and potentially decrease the severity of infections, including those that lead to pneumococcal disease.

7

Good Oral Hygiene

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Brush your teeth at least twice a day for two minutes each time using fluoride toothpaste. Floss daily to remove plaque from places your toothbrush can't reach and consider using mouthwash. Visit your dentist at least twice a year for professional cleanings and checkups.

TYPICAL STARTING DOSE

2 minutes

Description

Good oral hygiene, which includes regular brushing, flossing, and dental check-ups, is crucial for preventing tooth decay, gum disease, and maintaining overall oral health. A healthy mouth contributes to overall well-being and can prevent dental issues that may impact systemic health.

Oral hygiene refers to practices that keep the mouth healthy. Good habits include [R, R]:

- Gently brushing the teeth and tongue for two minutes, at least twice a day
- Flossing daily
- Using a toothpaste with fluoride and a soft toothbrush
- Replacing a worn toothbrush at least every 3 months

To help maintain good oral hygiene, it is also important to regularly see dental professionals. They can help prevent and address issues with your teeth and gums.

How it helps

Maintaining good oral hygiene has been shown to reduce the risk of pneumococcal disease. Poor oral health can provide a conducive environment for harmful bacteria, including Streptococcus pneumoniae, to multiply. Routine brushing and flossing limit the bacteria's growth and reduce the risk of it spreading to the lungs or bloodstream.

8

Dietary Vitamin C

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods rich in Vitamin C into your daily diet, such as oranges, strawberries, red peppers, kale, and broccoli. Aim to consume 5 servings of fruits and vegetables per day to meet the recommended dietary allowance of Vitamin C, which is 90 mg for adult men and 75 mg for adult women.

Description

Vitamin C is an antioxidant that supports the immune system, collagen production, and wound healing. It also enhances iron absorption from plant-based foods and contributes to overall health.

Vitamin C is an essential nutrient. This means that our bodies can't produce it on their own, so we have to get it from food or supplements [R].

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [R, R].

Vitamin C deficiency is called *scurvy.* In the past, many sailors suffered from it [R].

How it helps

Vitamin C boosts the immune system by enhancing the production and function of white blood cells that help our body fight off infections, including pneumococcal infections.

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.

ESR	1 mm/hr	0 6 15 100	9 Nov 2025
WBC	6.92 x10^3/mm3	2 4 6.5 11 40	9 Nov 2025
Neutrophils (Absolute)	4.8 x10^9/L	0.5 1.5 4.2 8	9 Nov 2025
hs-CRP	1.6 mg/L	0 0.5 3 100 500	9 Nov 2025