SelfDecode™

Low White Blood Cells

DNA Health Report

REPORT CATEGORY —

IMMUNITY & INFECTIONS

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

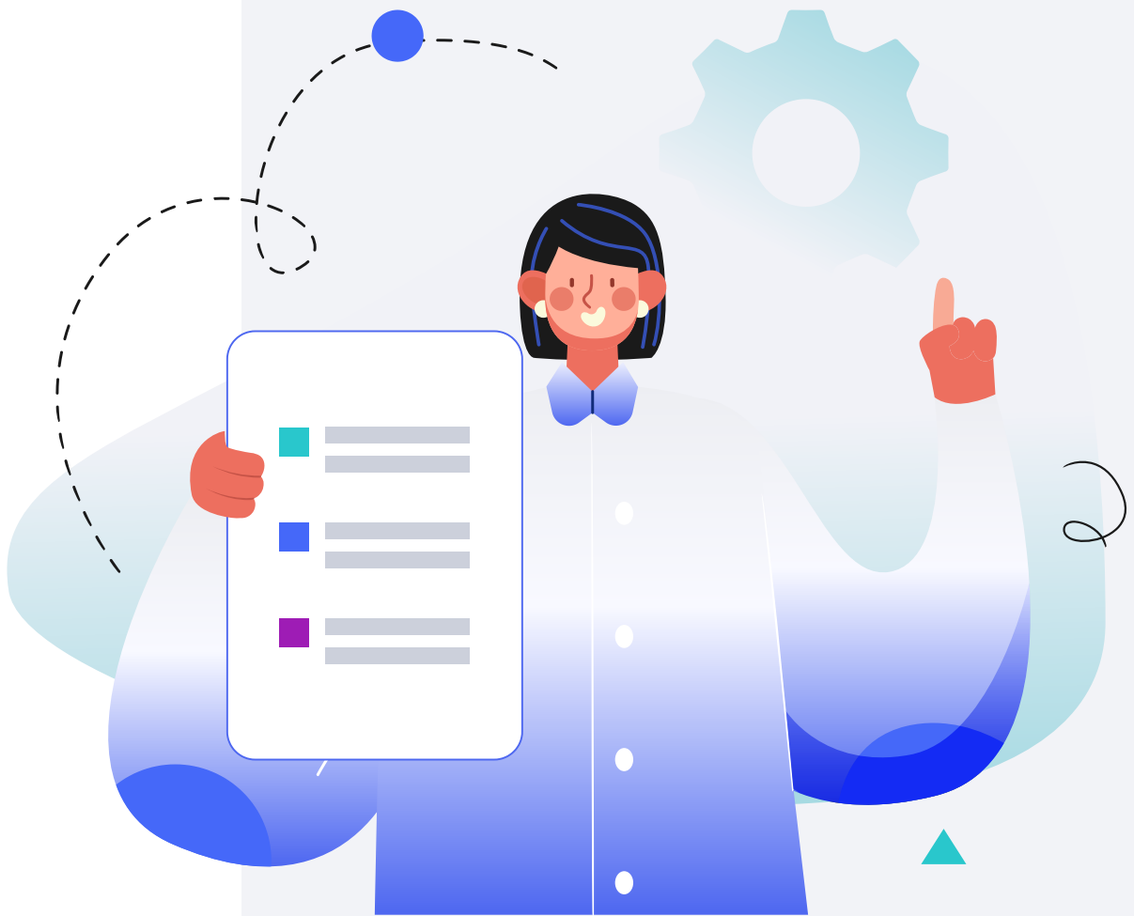
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

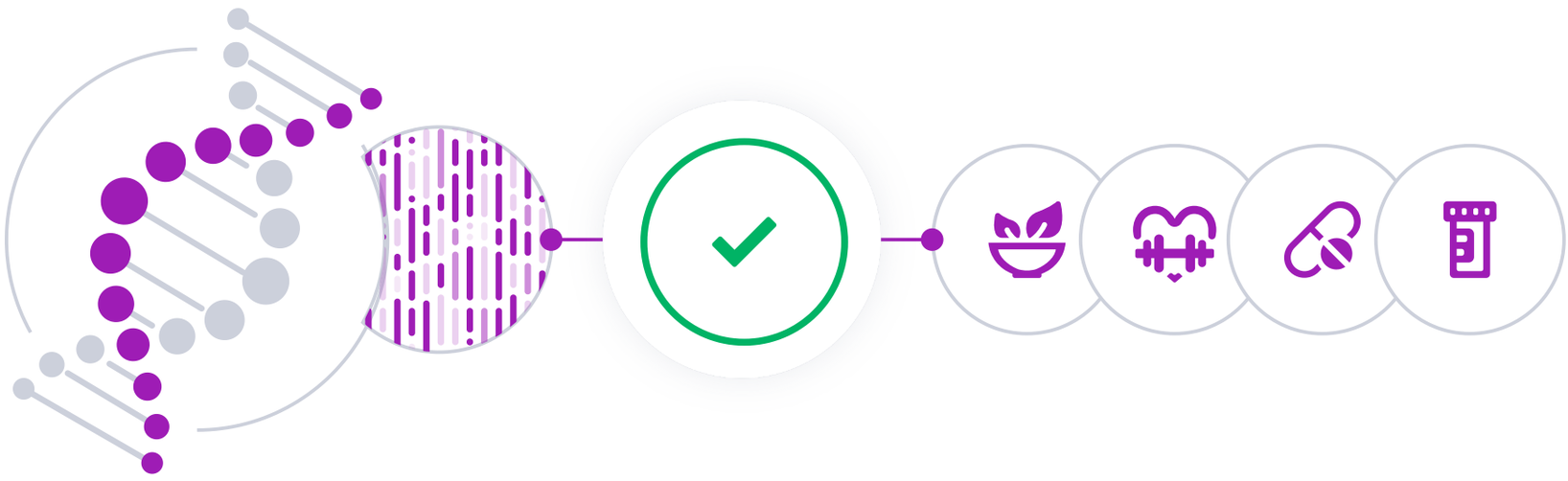


DISCLAIMER

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

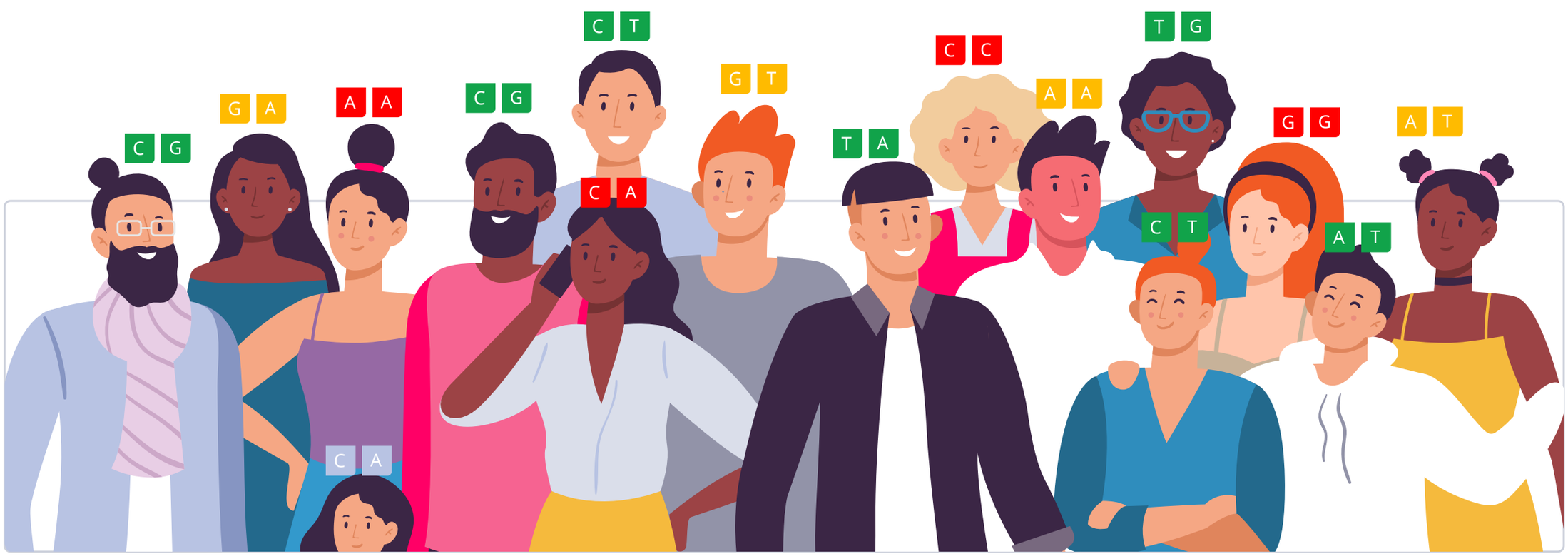
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

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

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

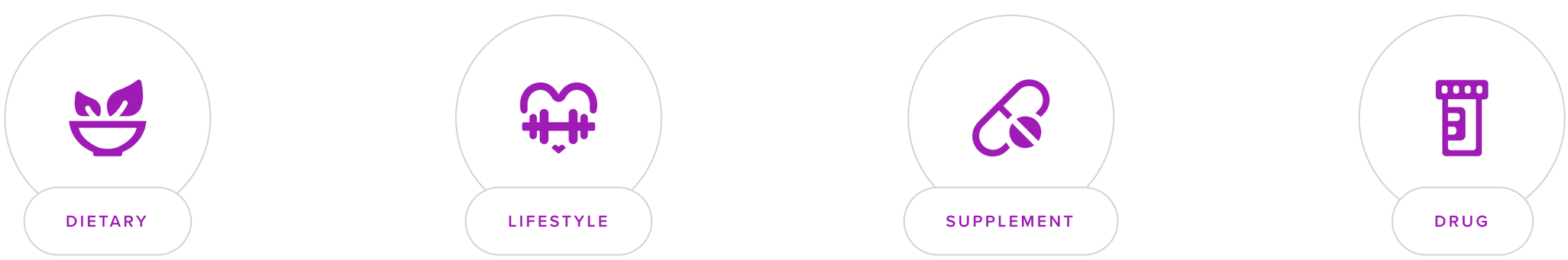
Genotype color info:	AA You don't have any risk alleles	AA You have 1 risk allele	AA You have 2 risk alleles

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 3 / 5

EVIDENCE 4 / 5

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

Leukopenia is a medical condition characterized by a decrease in the number of white blood cells (leukocytes) in the blood, which can weaken the body's immune defense system. White blood cells are crucial for fighting infections and defending the body against external pathogens like bacteria, viruses, and fungi.

A reduced white blood cell count may leave an individual more susceptible to frequent infections and can hinder the body's ability to respond effectively when confronted with infectious agents. Leukopenia can be detected through a complete blood count (CBC) test, which measures the levels of different blood cells in the body.

Causes and Treatment

The causes of leukopenia can vary widely and may include factors such as viral infections that temporarily disrupt bone marrow function, severe infections that use up white blood cells faster than they can be produced, autoimmune disorders that destroy white blood cells or their precursors, and certain medications that can damage bone marrow or white blood cells.

Symptoms of leukopenia itself may be subtle, but its impact is often observed through increased frequency or severity of infections.

Treatment revolves around addressing the underlying cause and may involve medications to stimulate white blood cell production, changing medication regimens, or treating infections due to weakened immune states.

TYPICAL LIKELIHOOD

Typical likelihood of leukopenia based on 1,044,731 genetic variants we looked at

65th

PERCENTILE

Your risk is **greater than 65% of the population** and **lower than 35% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NUDT15	rs116855232	CC
FAM241A	rs6838440	CT
LIG4	rs16972207	CG
FTO	rs79206939	GG
MCPH1	rs2916733	AG
NLRC5	rs4784750	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

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	Chlorophyll	100 mg
2	Avoid Exposure To Organic Solvents	
3	Pumpkin Seeds	
4	Selenium Supplements	50 mcg
5	Avoid Contact With Dust	
6	Dietary Zinc	
7	Dietary Vitamin B12	
8	Avoid Crowds	
9	Regular Hand Washing	
10	Vitamin C	2000 mg
11	Good Oral Hygiene	2 minutes
12	Dietary Vitamin C	

1 Chlorophyll

IMPACT 1 / 5
EVIDENCE 1 / 5

How to implement

Take chlorophyll supplements once daily, with a dose ranging from 100 to 300 milligrams. Consume it with a glass of water, preferably in the morning to coincide with your digestive cycle. It's advisable to continue this regimen daily for at least 3 to 4 weeks to assess its benefits.

TYPICAL STARTING DOSE
100 mg

Description

Chlorophyll is a pigment found in plants that may have antioxidant and anti-inflammatory properties. Some proponents suggest that consuming chlorophyll supplements or chlorophyll-rich foods may support detoxification and overall health

How it helps

In a study with 105 leukopenia patients, YBK Tablets (40 mg, thrice daily) showed significant efficacy (85% total effective rate) compared to placebo (26.7%) and similar to Leucogen Tablets (83.3%), with no adverse reactions reported [R].

2 Avoid Exposure To Organic Solvents

IMPACT 0 / 5
EVIDENCE 0 / 5

How to implement

Ensure to work in well-ventilated areas and wear protective gear when handling products like paints, varnishes, and adhesives. When possible, choose solvent-free or water-based products to minimize exposure. Regularly check labels for any solvents listed and strive to limit their use in both personal and professional settings.

Description

Avoiding exposure to organic solvents, commonly found in paints, adhesives, and cleaning products, can protect against the potential health risks associated with inhalation or skin contact, such as respiratory issues and skin irritation.

Organic solvents are used in various industries and workplaces for tasks like cleaning, painting, and manufacturing.

However, their use can be hazardous to workers' health. Exposure to these solvents can lead to problems such as breathing difficulties, skin irritation, and reduced fertility [R].

How it helps

Organic solvents can have toxic effects on the bone marrow, potentially worsening leukopenia. By avoiding exposure to these chemicals, individuals can help protect their bone marrow's ability to produce white blood cells.

3

Pumpkin Seeds

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate a handful of pumpkin seeds (about 28 grams) into your diet daily. You can add them to your breakfast cereal, sprinkle them over a salad, blend them into smoothie bowls, or simply eat them as a snack. This practice can be continued indefinitely as part of a healthy dietary pattern.

Description

Pumpkin seeds, also known as pepitas, are the edible seeds of the pumpkin.They are rich in protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. The compounds in pumpkin seeds may benefit heart health and immune function.

Pumpkin seeds are rich in arginine, protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. Pumpkin seeds contain 54.18 mg of arginine per gram.

How it helps

Pumpkin seeds are high in zinc, a mineral that plays a vital role in immune system function. Adequate zinc intake is essential for the production and function of white blood cells, making pumpkin seeds a beneficial dietary addition for individuals with leukopenia.

4

Selenium Supplements

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 50 mcg of selenium supplements once daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

50 mcg

Description

Selenium is a trace mineral found in Brazil nuts and many other foods as well as supplements. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

Selenium supports [R]:

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Selenium supplements are available for people who can't meet their needs with a balanced diet [R].

How it helps

Selenium is essential for the immune system. Some studies suggest that it can help improve white blood cell counts in people with leukopenia. It acts as an antioxidant to fight off infections and protect the immune cells.

5

Avoid Contact With Dust

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

To avoid contact with dust, clean surfaces with a damp cloth at least twice a week, use a vacuum cleaner with a HEPA filter regularly on carpets and upholstery, and avoid using feather dusters that disperse dust into the air. Additionally, consider using air purifiers in rooms where you spend the most time and keep windows closed on windy days to prevent outdoor dust from coming in.

Description

Avoiding exposure to dust can help alleviate allergy symptoms such as sneezing, runny nose, and itchy eyes, promoting respiratory comfort and overall well-being, particularly for individuals with allergies or allergic conditions.

How it helps

Dust can harbor microbes and allergens that may pose a risk to individuals with leukopenia, as their immune system's ability to respond to threats is diminished. Avoiding contact with dust helps minimize the risk of respiratory and other infections.

6

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 is vital for the development and function of immune cells, including white blood cells. A deficiency in zinc can lead to a reduced white blood cell count, known as leukopenia. Including zinc in the diet can help to restore healthy levels of white blood cells.

7

Dietary Vitamin B12

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods rich in vitamin B12 into your daily diet, such as beef, chicken, fish, and dairy products. If you are vegetarian or vegan, consider fortified cereals or plant-based milks. Aim to meet the recommended dietary allowance (RDA) for adults of 2.4 micrograms of vitamin B12 per day.

Description

Vitamin B12 is important for nerve function, red blood cell production, and overall energy metabolism. It's crucial for preventing pernicious anemia and maintaining neurological health.

How it helps

Vitamin B12 plays a critical role in the production of white blood cells, which are part of the immune system that helps fight infections. A deficiency in Vitamin B12 can lead to leukopenia. Therefore, including Vitamin B12 in the diet can help improve white blood cell count.

8

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

Leukopenia, a condition characterized by low white blood cell counts, makes individuals more susceptible to infections. Avoiding crowds helps reduce exposure to infectious agents, like bacteria and viruses, that could cause illnesses in people with compromised immune systems.

9

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 essential for people with leukopenia as it significantly reduces the risk of acquiring infections. Since individuals with this condition have lower defenses against pathogens, minimizing exposure through good hygiene practices helps protect against illness-causing bacteria and viruses.

10

Vitamin C

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE

2000 mg

Description

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].

Foods rich in Vitamin C include: [R]

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

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 supports various cellular functions of both the innate and adaptive immune system. Its antioxidant properties help to protect white blood cells from damage, and it may help increase white blood cell production, including those important for fighting infections.

11

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

For individuals with leukopenia, maintaining good oral hygiene is crucial because it lowers the risk of oral infections. A low white blood cell count can make it harder for the body to fight off infections, making the prevention of gum disease and dental cavities particularly important.

12

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 production and function of white blood cells, which are essential for fighting infections and thus can help in managing leukopenia. Moreover, it acts as an antioxidant, protecting the white blood cells from damage.

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

9 Nov 2025