SelfDecode™

Vision Loss

DNA Health Report

REPORT CATEGORY

EYE HEALTH

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

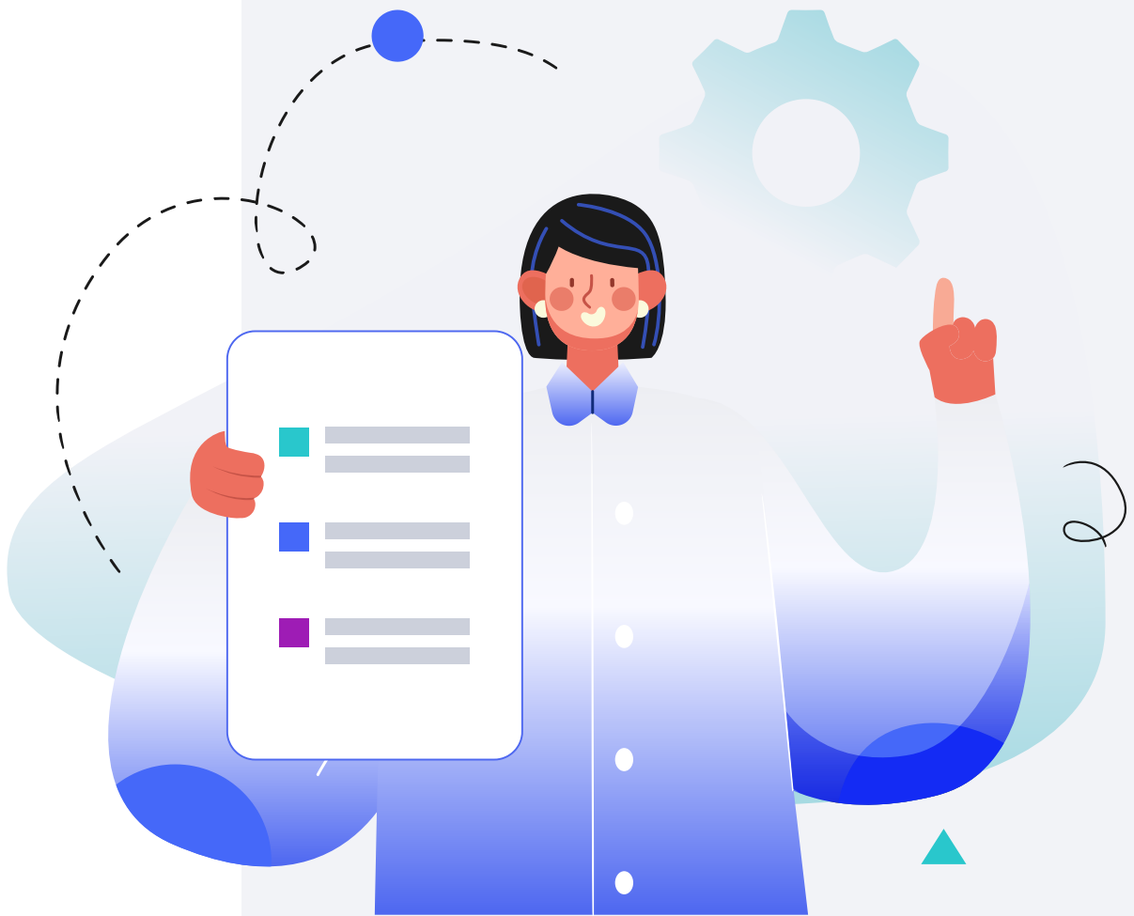
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

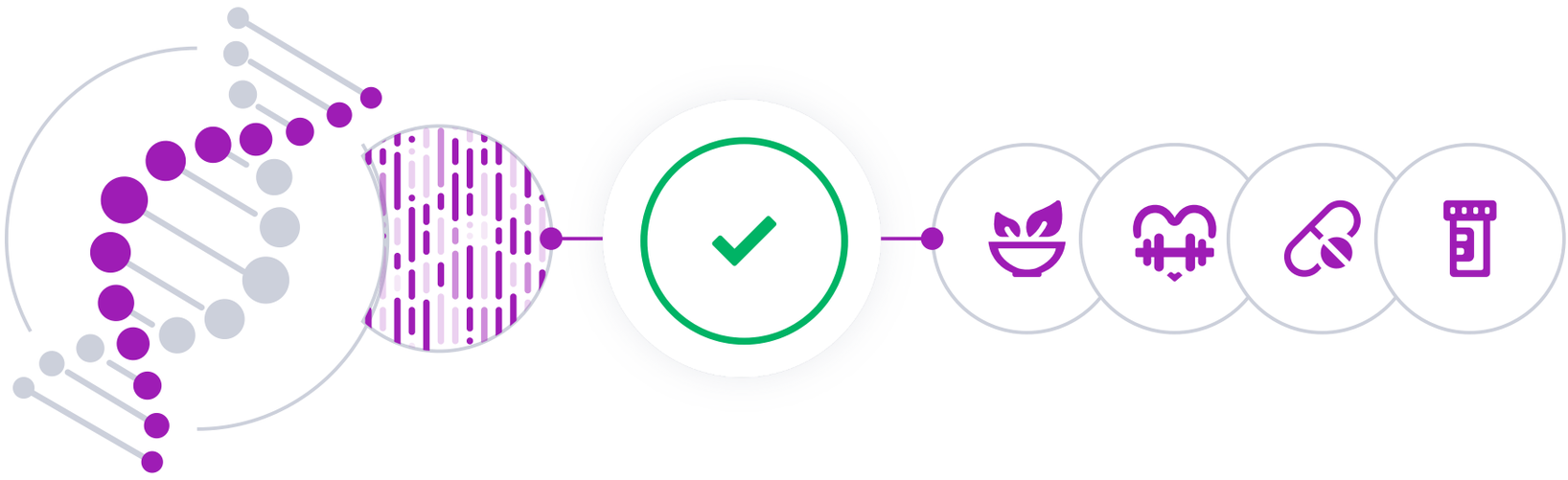


DISCLAIMER

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

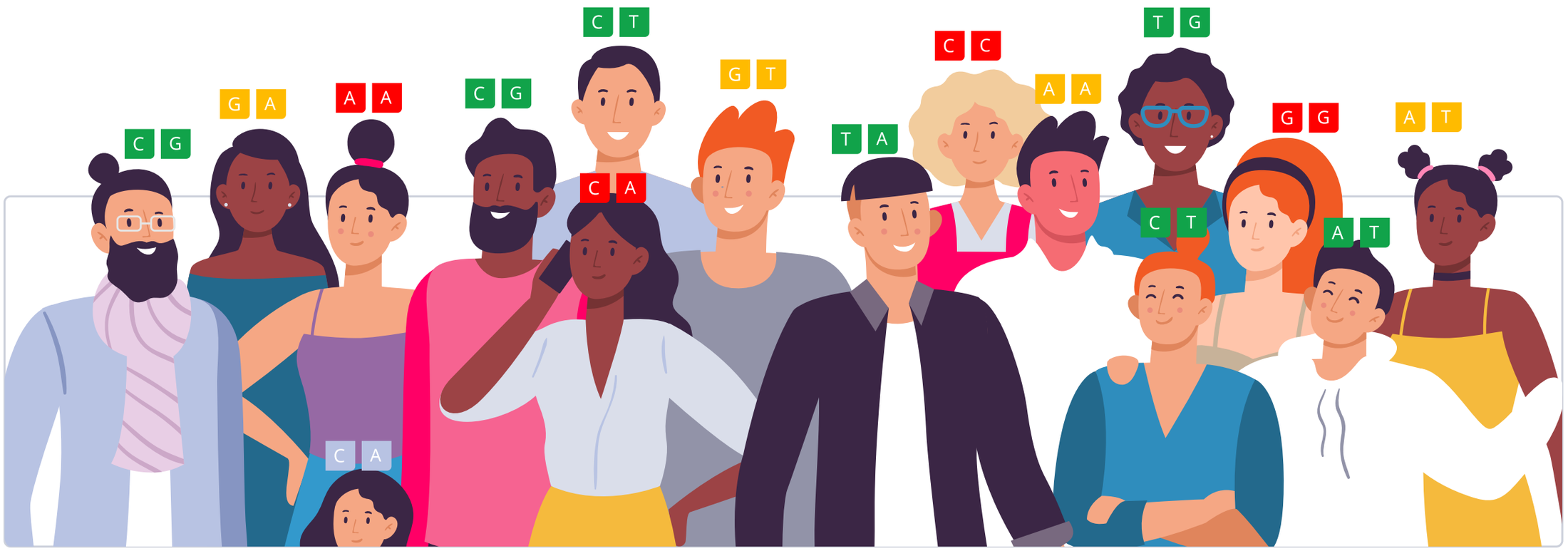
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

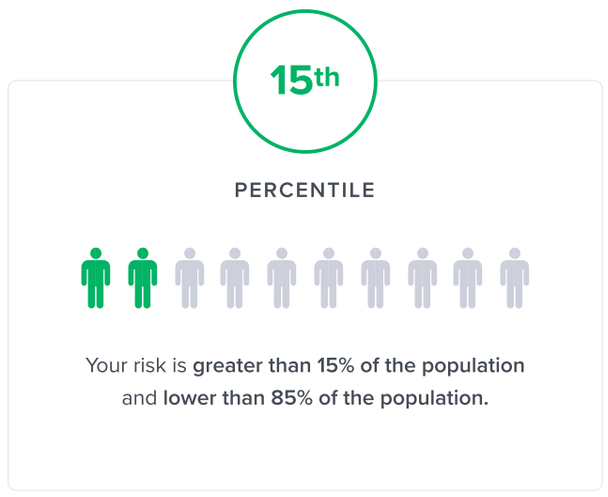
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Vision loss refers to the partial or complete loss of vision that cannot be corrected with standard glasses or contact lenses. This condition can arise from a variety of causes, including eye injuries, age-related degeneration, diseases like glaucoma or diabetic retinopathy, and disorders that affect the brain areas responsible for processing visual information.

The impact of vision loss can range from minor difficulties in seeing objects at certain distances to total blindness, significantly affecting an individual's quality of life by impeding their ability to perform daily tasks, navigate spaces, and maintain personal independence.

Symptoms and Management

The experience of vision loss varies greatly among individuals, depending on the cause and severity of their condition. Some experience a gradual decline in their sight, which may give them time to adjust and seek interventions. Others may undergo a sudden and drastic reduction in vision, which can be traumatic and require immediate medical attention.

Management of vision loss may involve the use of vision aids, rehabilitation to help adapt to visual changes, medications to treat underlying conditions, or surgeries to correct anatomical abnormalities. Regular eye examinations are essential for early detection and prevention of further vision impairment.

TYPICAL LIKELIHOOD

Typical likelihood of vision loss based on 707,755 genetic variants we looked at

67th

PERCENTILE

Your risk is **greater than 67% of the population** and **lower than 33% 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	Aerobic Exercise (Cardio)	1 hour
2	Omega-3 (Fish Oil)	2000 mg
3	DHA (Omega-3)	200 mg
4	Astaxanthin	12 mg
5	Bilberry Extract	
6	Dietary Omega-3 Fatty Acids	
7	Vitamin A	700 mcg
8	Lutein	
9	Lutein And Zeaxanthin	
10	Leafy Green Vegetables	
11	Eccentric Viewing Training	
12	Vitamin C	2000 mg
13	Saffron	20 mg
14	Oysters	
15	Zinc	15 mg
16	Berries	
17	Avoid Excess Sunlight Exposure	

1

Aerobic Exercise (Cardio)

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Regular physical activity like cardio can reduce the risk of age-related macular degeneration (AMD) and glaucoma, which are leading causes of vision loss [R, R].

2

Omega-3 (Fish Oil)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

2000 mg

Description

Omega-3 fatty acids are essential fats found in fatty fish like salmon, flaxseeds, and walnuts. They are known for their potential cardiovascular and brain health benefits, including reducing the risk of heart disease and supporting cognitive function.

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 [R, R].

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

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, 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

In a placebo-controlled trial of 51 male patients with X-linked retinitis pigmentosa, supplementation with DHA (30 mg/kg/day) for 4 years slowed the progression of vision loss [R].

Omega-3 fatty acids may help by reducing inflammation and supporting cell membranes in the eyes.

3

DHA (Omega-3)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take an omega-3 supplement containing DHA at a dosage of 200-500 mg daily, preferable with a meal to improve absorption. It's recommended to continue this supplementation as part of your daily regimen to support heart, brain, and joint health.

TYPICAL STARTING DOSE

200 mg

Description

DHA is an omega-3 fatty acid found in fatty fish and algae-based supplements. It is essential for brain health and has been associated with cognitive function, cardiovascular health, and reducing inflammation in the body.

An **EPA/DHA supplement** can be taken to help meet omega-3 fatty acid needs not achieved through diet. Supplement amounts are generally 250-500mg/d though there are no current official recommendations other than for ALA.

How it helps

In a placebo-controlled trial of 51 male patients with X-linked retinitis pigmentosa, supplementation with DHA (30 mg/kg/day) for 4 years slowed the progression of vision loss [R].

Omega-3 fatty acids may help by reducing inflammation and supporting cell membranes in the eyes.

4

Astaxanthin

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take an astaxanthin supplement daily, with a typical dosage ranging from 4 to 12 mg. It is best taken with a fat-containing meal to enhance absorption.

TYPICAL STARTING DOSE

12 mg

Description

Astaxanthin is a powerful antioxidant found in certain microalgae and seafood. It is known for its potential benefits in reducing oxidative stress, supporting skin health, and promoting eye health.

Astaxanthin is a naturally-occurring orange-red pigment carotenoid found in algae, shrimp, lobster, crab, and salmon [R].
As an antioxidant, astaxanthin is **10 times stronger than zeaxanthin, lutein and beta-carotene, and 100 times stronger than vitamin E** [R].
People take astaxanthin to:

- Support skin health [R, R]
- Reduce exercise fatigue [R, R]
- Prevent heart disease [R, R, R]

How it helps

Astaxanthin is a potent antioxidant that can cross the blood-retinal barrier and protect against oxidative stress, potentially reducing the risk of age-related macular degeneration, a leading cause of vision loss.

5

Bilberry Extract

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 160mg of bilberry extract twice daily with water, preferably with meals. Continue this regimen for at least 3 months to observe potential benefits.

Description

Bilberry extract is a concentrated form of bilberry, containing higher levels of its beneficial compounds. It's used in supplements and herbal remedies for its potential to promote eye health and circulation.

Bilberry (*Vaccinium myrtillus*) is a bush native to parts of Europe, Asia, and North America. Its fruit looks like the blueberry, which is likely why it is sometimes called the European blueberry. However, it is higher in antioxidants and has darker flesh than blueberries [R, R, R].

People use bilberries to support eye and blood vessel health [R, R].

How it helps

Bilberry extract contains anthocyanins, which support night vision. It helps to improve microcirculation in the retina, potentially benefiting people with retinopathy or those experiencing vision loss.

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, found in fish such as salmon and mackerel, support eye health by fighting inflammation, enhancing tear production, and possibly reducing the risk of macular degeneration and glaucoma.

7

Vitamin A

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a vitamin A supplement daily with a fat-containing meal to enhance absorption. The recommended daily allowance (RDA) for most adults is 700-900 micrograms (mcg) for men and women, respectively. Ensure not to exceed the upper intake level (UL) of 3000 mcg per day to avoid toxicity.

TYPICAL STARTING DOSE

700 mcg

Description

Vitamin A is a fat-soluble vitamin essential for various bodily functions, including vision, immune system support, and skin health. It is found in foods like carrots, sweet potatoes, and spinach and is important for maintaining overall health.

Vitamin A is a nutrient important for [R, R]:

- Vision
- Immunity
- Gut health
- Skin health

Foods rich in vitamin A include [R]:

- Beef liver
- Sweet potato
- Spinach
- Carrots
- Cheese

Vitamin A is also available in supplement form.

Women should be getting 700 micrograms of vitamin A per day, while men should be getting 900 micrograms [R].

How it helps

Vitamin A is crucial for maintaining vision. It is a component of rhodopsin, a protein in the eyes that allows you to see in low light conditions. Deficiency in Vitamin A can lead to night blindness and other vision problems.

8

Lutein

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Increase your intake of lutein by eating more dark, leafy greens such as spinach and kale, as well as other foods like corn, peas, and egg yolks. Aim to include these in your daily diet, consuming at least one serving of lutein-rich foods per meal. It can also be taken as a supplement.

Description

Lutein is an antioxidant pigment found in the eye, and may support eye health. It is commonly found in leafy green vegetables.

Lutein is an antioxidant pigment found in the eye. Many plants contain lutein, including [R, R]:

- Leafy greens (kale, spinach, leeks, lettuce)
- Cantaloupe
- Corn
- Peas
- Peppers
- Herbs (basil, parsley)

Lutein may help support eye health [R, R].

How it helps

Lutein is concentrated in the macula, a part of the retina responsible for central vision. It filters harmful blue light and can improve or protect eye health by reducing the risk of chronic eye diseases.

9

Lutein And Zeaxanthin

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a supplement containing 10mg of lutein and 2mg of zeaxanthin daily, preferably with a meal that contains fat for better absorption.

Description

Lutein and zeaxanthin are carotenoids found in green leafy vegetables and certain supplements. They are known for their role in promoting eye health and reducing the risk of age-related macular degeneration and cataracts when consumed regularly as part of a balanced diet.

Lutein and zeaxanthin are two antioxidant pigments found in the eye [R, R].

Many plants contain lutein and zeaxanthin, including [R, R]:

- Leafy greens (kale, spinach, leeks, lettuce)
- Cantaloupe
- Corn
- Peas
- Peppers
- Herbs (basil, parsley)

Egg yolks are the main animal source of these carotenoids [R].

Lutein and zeaxanthin may help support eye health [R, R].

How it helps

Lutein and Zeaxanthin are antioxidants found in the eye, specifically the macula and retina, where they protect against harmful blue light and oxidative damage. Consuming these nutrients can improve visual performance and may slow the progression of age-related macular degeneration (AMD), which is a leading cause of vision loss.

10

Leafy Green Vegetables

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate at least one serving of leafy green vegetables, such as spinach, kale, or Swiss chard, into your diet daily. This can be done by adding them to salads, smoothies, or as a side dish to your meals.

Description

Leafy green vegetables like spinach and kale are packed with vitamins, minerals, and antioxidants. Incorporating them into your diet can promote overall health by providing essential nutrients, supporting digestion, and reducing the risk of chronic diseases like heart disease and certain cancers.

Leafy green vegetables, also called leafy greens, or greens, are edible plant leaves, which can include stalks and shoots as well. Common examples include: lettuce, spinach, kale, chard, endive, and fennel.

Leafy greens contain a host of vitamins and minerals, as well as fiber. Most of them are a particularly good source of vitamin K.

How it helps

Leafy green vegetables such as spinach, kale, and collard greens are high in lutein and zeaxanthin, antioxidants that can prevent or slow down macular degeneration and may reduce the risk of developing cataracts, leading to a decrease in vision loss.

11

Eccentric Viewing Training

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Eccentric viewing training involves practicing using your peripheral vision to see, rather than the central vision, which is beneficial for individuals with central vision loss. This training often includes working with a low vision specialist who guides you through exercises to locate the area of your retina that provides the best vision, which you then learn to use to view objects, read, or recognize faces. You should practice these exercises daily for several months under the guidance of a professional to effectively adapt to using your peripheral vision for seeing.

Description

Eccentric viewing training is a rehabilitation technique used for individuals with macular degeneration or other visual impairments. It involves learning to use a non-central area of the retina for reading and other visual tasks to improve functional vision.

Eccentric viewing is a technique in which people with central vision loss use their peripheral vision to see objects [R].

A trained low vision therapist can help patients with AMD learn how to use this technique. After identifying blind spots in their macula, the therapist teaches them techniques to work around these spots and rewire the eyes and brain to learn a new method of seeing [R].

How it helps

Eccentric Viewing Training teaches individuals with central vision loss to use peripheral vision more effectively. By training to look slightly away from the object of focus, users can improve their functional vision, helping them perform daily tasks better.

12

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 is an antioxidant that helps protect the eyes from damage caused by free radicals and supports the health of blood vessels in the eye. It has been linked to a reduced risk of cataract formation.

13

Saffron

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take 20 mg of saffron supplement daily. This can be taken at any time of the day, with or without food.

TYPICAL STARTING DOSE

20 mg

Description

Saffron is a spice derived from the stigma of the saffron crocus flower, and is native to the Mediterranean and Asia. Its main compounds include crocin, picrocrocin, and safranal, which may contribute to its antioxidant properties and potential mood-enhancing effects.

Saffron is a yellow spice praised for its color, taste, and potential health benefits [R].

Saffron is rich in antioxidants such as *crocin*. Researchers are looking into its potential benefits for [R, R, R, R]:

- Gut conditions
- Heart health
- Mental health

How it helps

Saffron contains antioxidants that are thought to help protect eye cells from damage. Some studies have shown that saffron supplementation can improve visual acuity in individuals with age-related macular degeneration (AMD), a common cause of vision loss.

14

Oysters

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Consume 3-5 medium-sized oysters, which are about 50-100 grams, two to three times a week. This ensures an adequate intake of essential nutrients like zinc without excessive heavy metal consumption.

Description

Common to coastal areas around the world, oysters are a mullusk that has been harvested for thousands of years. Oysters are a rich source of protein, vitamins (especially B12), zinc, iron, copper, and omega-3 fatty acids.

Oysters are an excellent source of iodine, iron and are loaded with other vitamins and minerals, especially copper and vitamin B12. A 3-ounce serving provides 93 mcg of iodine or 62%DV.

How it helps

Oysters are high in zinc, an essential mineral that plays a vital role in bringing vitamin A from the liver to the retina for eye-protective melanin production. Zinc deficiency can lead to impaired vision.

15

Zinc

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

Zinc is an essential mineral. Your body needs it to [R, R]:

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [R].

Adults should get **8-11 mg of zinc** per day [R].

How it helps

Zinc plays a vital role in transporting Vitamin A from the liver to the retina to produce melanin, a protective pigment in the eyes. Zinc supplementation has been shown to help in the treatment of macular degeneration, a leading cause of vision loss.

16

Berries

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate a variety of berries such as strawberries, blueberries, raspberries, and blackberries into your daily diet. Aim for at least one cup of fresh or frozen berries every day, either as a snack, part of your breakfast (such as in oatmeal or yogurt), or as a dessert.

Description

Berries, such as strawberries, blueberries, and raspberries, are packed with antioxidants, vitamins, and fiber. Regular consumption of berries may support heart health, improve cognitive function, and contribute to overall well-being.

How it helps

Berries are high in antioxidants, including vitamin C, which can reduce the risk of developing age-related macular degeneration (AMD) and cataracts, two of the leading causes of vision loss.

17

Avoid Excess Sunlight Exposure

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Limit direct sun exposure to early morning or late afternoon hours, ideally before 10 a.m. or after 4 p.m., when UV rays are less intense. Wear protective clothing, such as long-sleeved shirts, pants, and wide-brimmed hats, along with sunglasses that block UVA and UVB rays. Apply a broad-spectrum sunscreen with at least SPF 30 to all exposed skin, reapplying every two hours or immediately after swimming or sweating.

Description

Avoiding excessive sunlight exposure and practicing sun safety measures, such as wearing sunscreen and protective clothing, helps reduce the risk of skin damage, including sunburn and skin cancer. It supports long-term skin health and minimizes the harmful effects of UV radiation.

Sunlight or bright light during the day can benefit your body and mind. It may [R, R, R]:

- Boost your mood
- Boost your performance and energy
- Improve sleep quality

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].

However, **excessive sun exposure may lead to sunburn, skin aging, and skin cancer**, so make sure to find the right balance [R, R].

How it helps

Exposure to excessive sunlight can damage the eyes over time due to ultraviolet (UV) radiation. Wearing sunglasses and hats to protect eyes from UV rays can prevent cataracts and other eye conditions that lead to vision loss.

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.