

# Grass Pollen Allergy

## DNA Health Report

REPORT CATEGORY —



ALLERGIES

Sample Client

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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.

# Personal information

NAME

Sample Client

SEX AT BIRTH

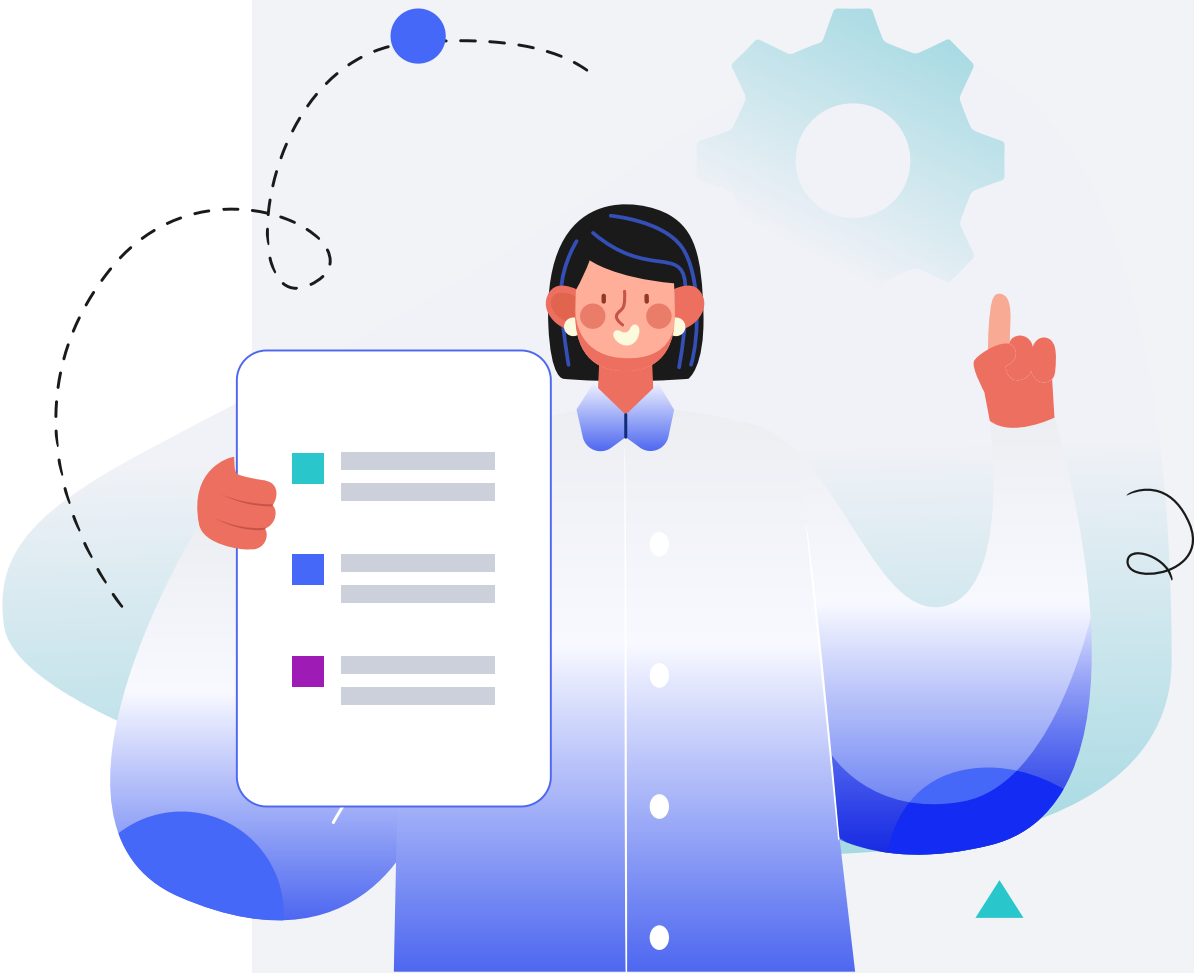
Male

HEIGHT

5ft 5" 165cm

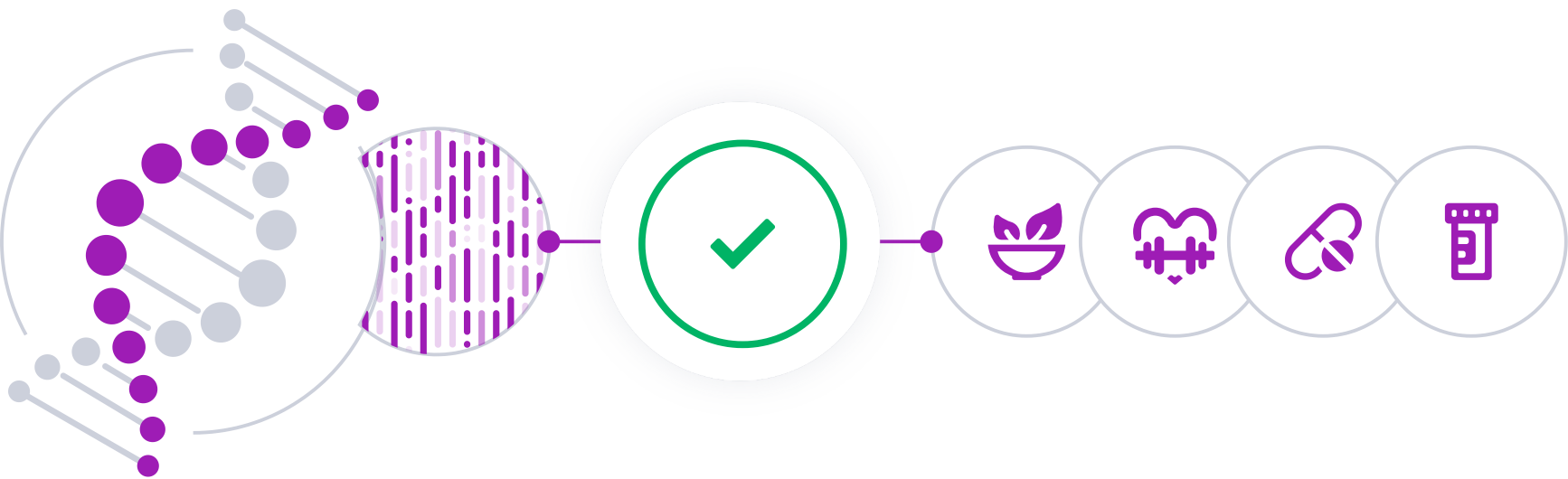
WEIGHT

137lb 62kg



# 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.

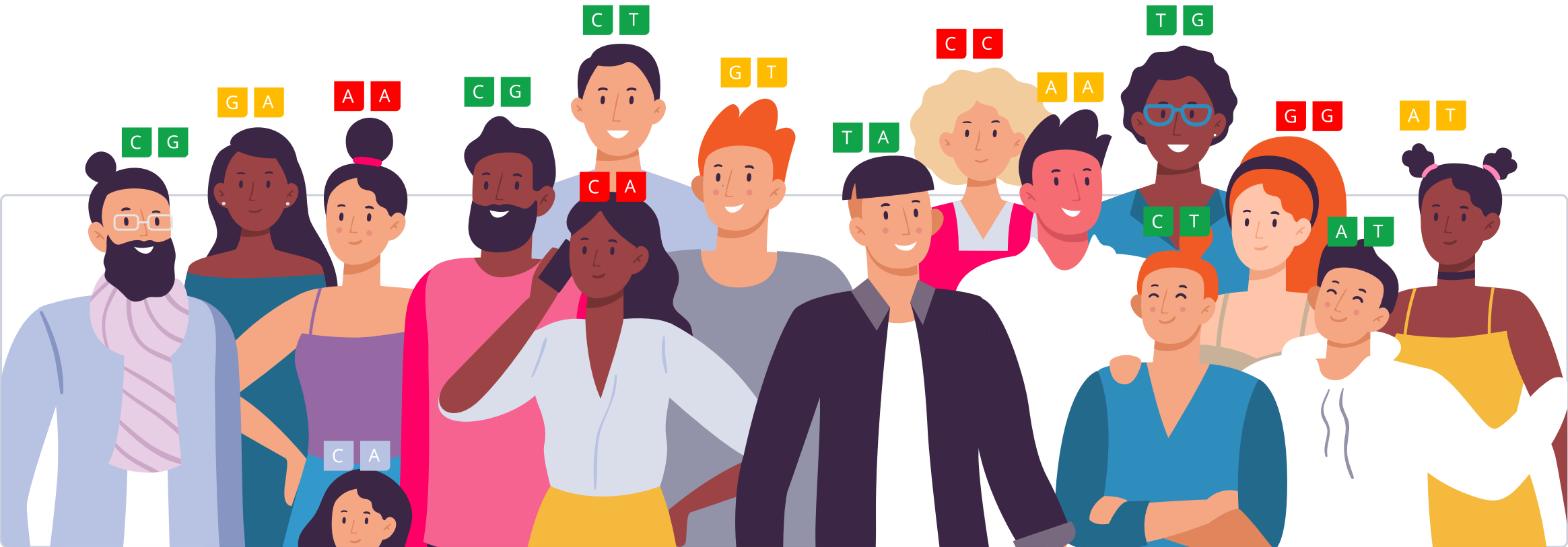


Similarly, our Trait Reports look at how your DNA influences your traits.



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

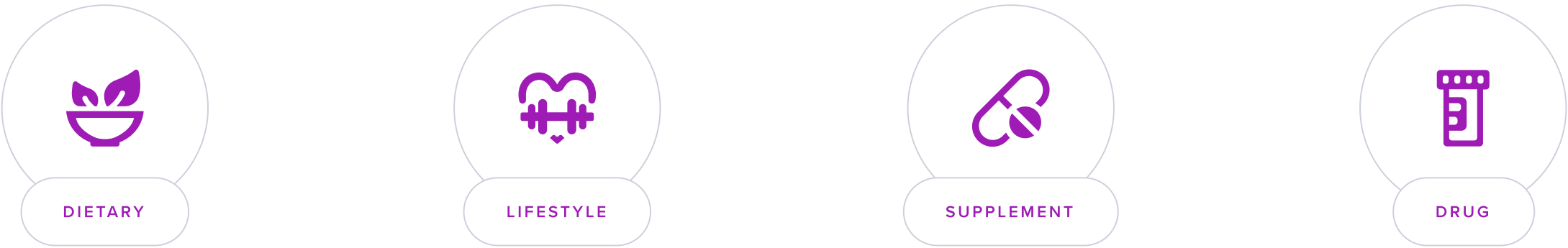
You have 2 risk alleles

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

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, a few 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

Hay fever, also known as allergic rhinitis, is an allergic reaction to outdoor or indoor allergens. The most common ones include [\[R\]](#), [\[R\]](#):

- Pollen from trees, grasses, or ragweed
- Dust mites
- Pet dander
- Spores from molds and fungi
- Cockroach droppings

Grass pollen allergy is one type of hay fever that occurs in response to the pollen of grasses such as [\[R\]](#):

- Bahia
- Bermuda
- Fescue
- Johnson
- Kentucky blue
- Orchard
- Rye
- Sweet vernal
- Timothy

Because grass pollen is light and easily carried by the wind, you may come in contact with pollen from grasses found relatively far away from your location.

Symptoms of grass pollen allergy typically include [\[R\]](#):

- Sneezing
- Runny or stuffy nose
- Postnasal drip (mucus running from the back of your nose down your throat)
- Itchy eyes, nose, throat, or roof of the mouth
- Watery, red, or swollen eyes (conjunctivitis)
- Shortness of breath, coughing, and/or wheezing

Importantly, **the symptoms are seasonal and linked to the life cycle of grasses**. In the US, grass causes most late spring and summer pollen allergy symptoms during April through early June. However, it can be found year-round in warmer regions [\[R\]](#).

If you suspect you have a grass pollen allergy, you can get an allergy test. The most common types of allergy tests are [\[R\]](#), [\[R\]](#), [\[R\]](#):

- **Skin prick test:** The allergen is mixed into water or oil. The doctor places a droplet on your arm and pricks the surface of the skin. If the skin becomes red and swollen, you are having an allergic reaction.
- **Patch test:** A patch is soaked with the allergen and placed on the skin for 1-3 days. This test is used to find allergies that don't cause a fast, dramatic reaction.
- **Provocation test:** In a lab setting, you are exposed to an allergen. If you are testing for seasonal allergies, a doctor may spray specific types of pollen up your nose. This test is only used when other tests haven't produced clear results.



# Risk Factors and Management

- Having other allergies or asthma
- Having atopic dermatitis (eczema)
- Living or working in an environment that constantly exposes you to grass pollen
- Being exposed to smoke and strong odors that irritate the lining of the nose
- Having a blood relative with allergies or asthma

Grass pollen allergy tends to run in families. If both of your parents have allergies, you're more likely to have allergies. The genetic predisposition to develop an allergic reaction is known as *atopy*.

There's no way to avoid getting hay fever. If you have hay fever, the best thing to do is to lessen your exposure to the allergens that cause your symptoms. Some useful strategies include [\[R\]](#):

- Keeping the windows and doors shut during pollen season.
- Checking pollen forecasts and trying to stay indoors when pollen counts are high.
- Wearing a dust mask when doing outdoor activities like gardening.
- Using a high-efficiency particulate air (HEPA) filter in your bedroom and other rooms where you spend a lot of time.

Management and treatment options for hay fever symptoms include [\[R\]](#):

- Over-the-counter or prescription medications such as antihistamines, decongestants, and nasal corticosteroids to ease the symptoms.
- Saline nasal rinses to relieve congestion and irritation.
- Allergy shots or under-the-tongue tablets (immunotherapy) might be an option for people whose symptoms aren't effectively relieved by medications.



LESS LIKELY

Less likely to have grass pollen allergy based on 11,715 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

| GENE     | SNP        | GENOTYPE |
|----------|------------|----------|
| C16ORF72 | rs631208   | AA       |
| EPS15    | rs6673480  | CT       |
| ERMP1    | rs928413   | GG       |
| DNAH5    | rs6554809  | CT       |
| LRRC32   | rs2155219  | GT       |
| IL2      | rs2069762  | AC       |
| NPHP3    | rs7617456  | AG       |
| FLG      | rs61816761 | GG       |
| SLC25A46 | rs17513503 | CC       |
| HLA-DQB1 | rs7775228  | TT       |
| KIAA1109 | rs2069772  | TT       |
| ABL2     | rs1325195  | 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 |                           | DOSAGE |                               |
|--------|---------------------------|--------|-------------------------------|
| 1      | Avoid Pollution           | 2      | Avoid Air Pollution           |
| 3      | Nasal Cleansing           | 4      | Butterbur75 mg                |
| 5      | Avoid Known Allergens     | 6      | Avoid Ozone Exposure          |
| 7      | Stinging Nettle300 mg     | 8      | Optimize Indoor Air Quality   |
| 9      | Avoid Contact With Pollen | 10     | Nasal Light Therapy25 minutes |

1



Avoid Pollution

IMPACT

1 / 5

EVIDENCE

1 / 5

## How to implement

Minimize your exposure to pollution by staying indoors on days when air quality is poor, using air purifiers at home, and avoiding heavy traffic areas whenever possible. Aim to check the air quality index (AQI) daily, especially if you live in urban or industrial areas, and adjust your outdoor activities accordingly.

## Description

Urban environments come with some health hazards. Cars, factories, and other sources increase air [pollution](#). This can play a role in lung and heart disease, diabetes, and allergies. Other forms of pollution like environmental pollutants and noise pollution may also contribute to health problems.

**While city life is convenient in a lot of ways, it comes with some health hazards.** Cars, factories, and other sources increase air [pollution](#) [\[R\]](#).

Air pollution plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lung disease
- Heart disease
- Diabetes
- Allergies

Other forms of pollution can cause a number of health issues as well. Environmental pollutants, such as mercury and PCBs (polychlorinated biphenyls), may reduce lifespan [\[R\]](#), [\[R\]](#).

## How it helps

Avoiding pollution is crucial for individuals with grass pollen allergies, as pollutants can exacerbate respiratory symptoms and increase sensitivity to allergens. Cleaner air helps maintain lung function and reduces inflammatory responses, improving overall respiratory health.



2



Avoid Air Pollution

IMPACT

1 / 5

EVIDENCE

1 / 5

## How to implement

**Stay indoors** on days when air quality indexes (AQI) indicate high pollution levels, which are often reported by weather services or government environmental agencies. **Install air purifiers** in your home, especially in bedrooms, to reduce indoor pollutants. Limit outdoor exercise when air pollution warnings are issued, opting for indoor activities instead.

## Description

Avoiding air pollution by reducing exposure to pollutants in the environment is essential for respiratory and overall health. It can help lower the risk of respiratory diseases, cardiovascular conditions, and other health issues associated with poor air quality.

**While city life is convenient in a lot of ways, it comes with some health hazards.** Cars, factories, and other sources increase air [pollution](#) <sup>[R]</sup>.

Air pollution plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lung disease
- Heart disease
- Diabetes
- Asthma
- Skin conditions

## How it helps

Avoiding air pollution can significantly reduce inflammation and irritation in the respiratory tract, which is crucial for individuals with grass pollen allergies. This helps to alleviate allergy symptoms and improves overall respiratory function, enhancing quality of life.

3



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 effectively irrigates the nasal passages, reducing the accumulation of allergens such as grass pollen. This process alleviates congestion, enhances mucosal clearance, and promotes easier breathing, making it a beneficial intervention for individuals suffering from grass pollen allergies.

4



Butterbur

IMPACT1 / 5

EVIDENCE1 / 5

## How to implement

Take a 75 mg butterbur supplement twice daily with meals to help manage your condition. Continue this regimen as advised by your healthcare provider.

TYPICAL STARTING DOSE  
75 mg

## Description

Butterbur is an herbal remedy commonly used for its potential to alleviate migraines and allergy symptoms. It contains compounds that may have anti-inflammatory and antispasmodic properties, providing natural relief for these conditions.

[Butterbur](#) is a shrub that has been used in traditional medicine for thousands of years. People even used it to treat plague during the Middle Ages [\[R\]](#).

Today, people mainly use a species of butterbur called *Petasites hybridus*. It may help relieve migraines and allergies [\[R, R\]](#).

## How it helps

Butterbur may help alleviate symptoms of grass pollen allergy by inhibiting the release of inflammatory mediators and reducing nasal congestion, thereby providing relief from sneezing, itching, and other discomforts associated with allergic reactions.

5



Avoid Known Allergens

IMPACT1 / 5

EVIDENCE1 / 5

## How to implement

Identify substances that trigger allergic reactions for you via allergy testing or personal observation and actively avoid contact or consumption of these substances. This is an ongoing, daily practice for managing allergies effectively.

## Description

Avoid known allergens - If you are allergic to a particular food or animal, avoiding them will help prevent allergic reactions. You may also want to clean your house and/or office to prevent dust mite or mold accumulation [\[R, R\]](#).

## How it helps

Avoiding known allergens significantly reduces exposure to grass pollen, which helps to minimize allergy symptoms such as sneezing and nasal congestion. This proactive approach can improve overall quality of life and reduce the need for medication.



6



Avoid Ozone Exposure

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Stay indoors during times when ozone levels are reported to be high, typically on hot sunny days, especially during afternoon and early evening hours. Ensure that air filters in your home and vehicle are regularly maintained to decrease indoor ozone levels. Limit outdoor exercise or strenuous physical activity during high ozone days to reduce ozone exposure.

Description

Avoiding prolonged exposure to ground-level ozone, a component of air pollution, can protect lung health and reduce the risk of respiratory problems. Reducing outdoor activities during high ozone levels and using air purifiers indoors can minimize exposure.

How it helps

Avoiding ozone exposure helps individuals with grass pollen allergies by minimizing respiratory inflammation and irritation, which can exacerbate allergic reactions. This reduction in exposure supports overall lung health and mitigates symptoms associated with allergen triggers.

7



Stinging Nettle

IMPACT1 / 5

EVIDENCE1 / 5

## How to implement

Take a 300 to 600 mg capsule of stinging nettle extract daily with water, ideally with a meal to reduce the risk of stomach discomfort. Continue for at least 3 months to observe benefits.

TYPICAL STARTING DOSE

300 mg

## Description

Stinging nettle is a plant known for its stinging hairs on its leaves and stems, and is native to parts of Europe and Asia. It has been used in traditional medicine as an herbal remedy and today as a dietary supplement. It contains compounds like flavonoids, polyphenols, and vitamins A and C, iron, and calcium. This helps it provide potential benefits for allergies and arthritis.

[Stinging nettle](#) (*Urtica dioica*), also known as common nettle, is a herb that grows all over the world. Coming in contact with the stinging hairs on the leaves and stems may cause a burning sensation [\[R\]](#), [\[R\]](#), [\[R\]](#).

In ancient Egypt, it was commonly used to treat arthritis. Stinging nettle has also been used to [\[R\]](#):

- Reduce inflammation
- Relieve allergies
- Control blood pressure
- Improve wound healing
- Support prostate health

Stinging nettle is available in many forms, including:

- Capsules
- Tincture
- Tea
- Cream
- Leaves

## How it helps

Stinging nettle may mitigate grass pollen allergy symptoms by acting as a natural antihistamine, thereby reducing inflammation and histamine release in response to allergens.

8



Optimize Indoor Air Quality

IMPACT

1 / 5

EVIDENCE

1 / 5

## How to implement

To optimize indoor air quality, regularly clean or replace air filters in your HVAC system at least every three months, use an air purifier in rooms where you spend the most time, ensure proper ventilation by opening windows when weather permits, and reduce the use of air fresheners and candles that can add pollutants to the air. Aim to maintain these practices year-round to consistently improve indoor air quality.

## Description

Optimizing indoor air quality involves implementing measures to reduce pollutants and allergens in indoor environments. It can promote respiratory health, reduce allergy symptoms, and create a more comfortable living space.

Cars, factories, and other sources increase outdoor air [pollution](#) <sup>[R]</sup>.

But air pollution can also happen indoors. Indoor air pollutants include vapors from cooking and cleaning, mold, and smoke <sup>[R, R]</sup>.

*Sick building syndrome* is a collection of symptoms that seem to be caused by exposure to these air pollutants. People with this syndrome tend to have <sup>[R, R, R]</sup>:

- Breathing problems
- Headaches
- Drowsiness
- Brain fog

## How it helps

Optimizing indoor air quality reduces exposure to allergens and respiratory irritants, which can alleviate symptoms associated with grass pollen allergies. By maintaining cleaner air, patients may experience fewer allergy-related reactions, enhancing overall respiratory health.



9



Avoid Contact With Pollen

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Stay indoors during high pollen count days, usually during early morning or late afternoon. Close windows and use air purifiers to keep indoor air clean. Shower and change clothes after being outside to remove pollen.

Description

Avoiding exposure to pollen 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 and allergic conditions.

How it helps

Avoiding contact with pollen significantly reduces exposure to allergens that trigger symptoms in grass pollen allergy patients. This proactive measure can lead to a reduction in allergic reactions, such as sneezing and itchy eyes, and promote overall respiratory comfort.

10



Nasal Light Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Use a nasal light therapy device for about 25 minutes per day. Insert the device gently into the nose, and turn it on to allow the light to work. This can be done once daily for several weeks or according to the specific product's instructions or until symptoms improve.

TYPICAL STARTING DOSE

25 minutes

Description

Nasal light therapy involves the use of low-level light to stimulate blood flow in the nasal cavity, potentially improving symptoms of sinusitis and congestion, and promoting better respiratory health.

Nasal light therapy involves shining different types of light into the nostrils. It’s mainly used to help relieve hay fever symptoms [\[R\]](#).

How it helps

Nasal light therapy helps alleviate respiratory symptoms associated with grass pollen allergy by enhancing blood circulation in the nasal cavity, reducing inflammation, and promoting mucus clearance. This targeted approach may lead to improved airflow and relief from congestion.