

Multiple Chemical Sensitivity

Biohacker Report

REPORT CATEGORIES —



ALLERGIES



INFLAMMATION &
AUTOIMMUNITY



DETOX

Sample Client

Report date: 15 January 2026

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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

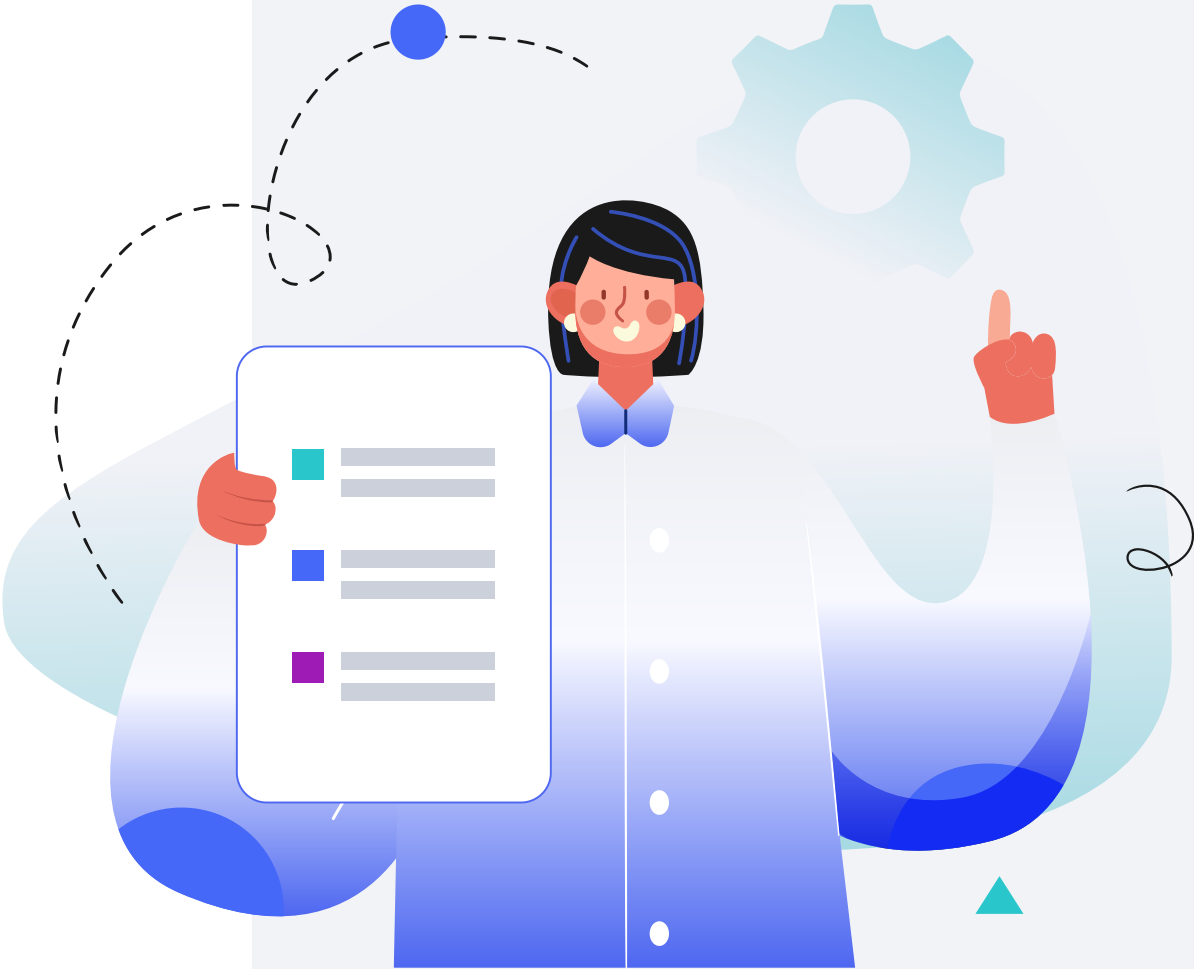
Male

HEIGHT

5ft 5" 165cm

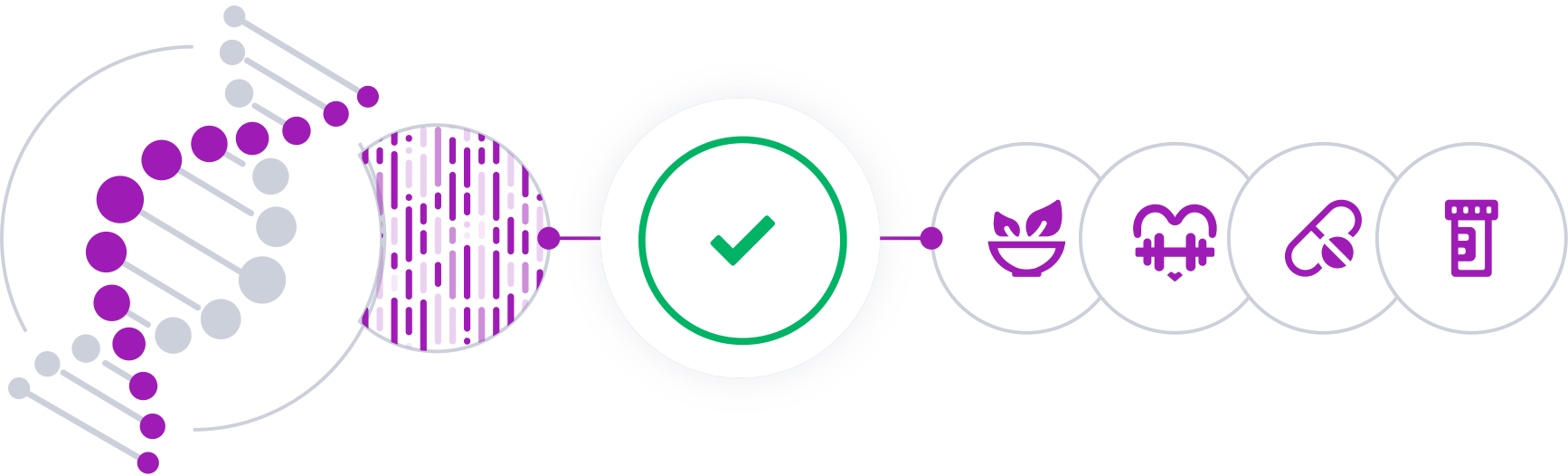
WEIGHT

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.

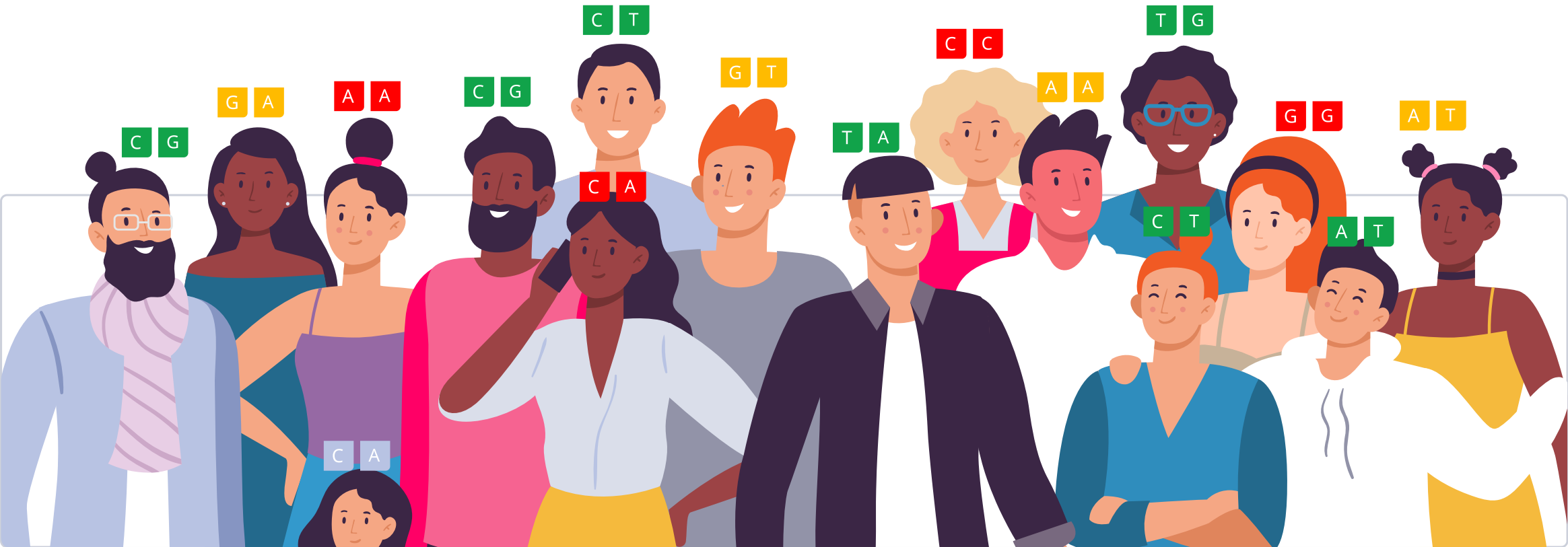


Similarly, our Trait Reports look at how your DNA influences your traits.



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

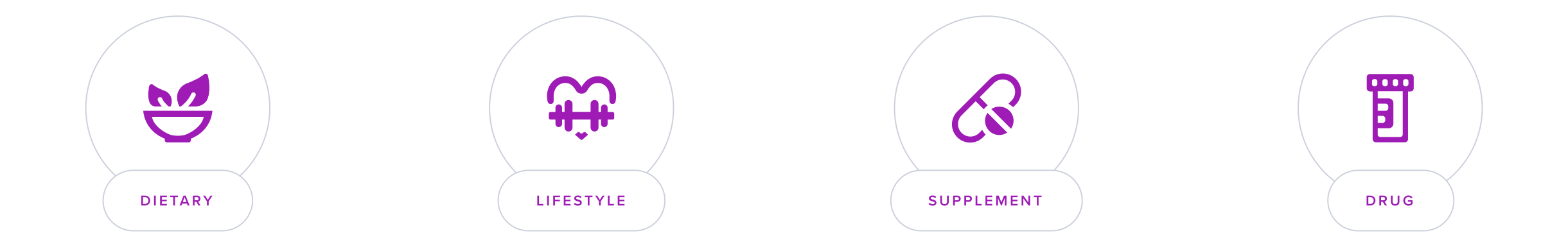
You have 2 risk alleles

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

Multiple Chemical Sensitivity (MCS)—also known as idiopathic environmental intolerance (IEI) or chemical intolerance—is a condition where individuals experience adverse reactions to low levels of chemicals in the environment. These chemicals can be found in everyday products such as cleaning agents, perfumes, pesticides, and even the air. MCS is not a recognized medical diagnosis in all regions, but it is gaining attention for its impact on people’s lives and health.

The symptoms of MCS can vary greatly from person to person, but they often mimic those of other health conditions, making it challenging to diagnose. Common symptoms include:

- **Headaches and migraines:** Often triggered by exposure to chemicals in cleaning products, fragrances, or fumes.
- **Fatigue:** Chronic tiredness that doesn’t improve with rest.
- **Respiratory issues:** Shortness of breath, wheezing, coughing, and a sore throat.
- **Skin reactions:** Rashes, itching, or hives after exposure to chemicals.
- **Cognitive issues:** Difficulty concentrating, brain fog, memory problems, and confusion.
- **Gastrointestinal distress:** Nausea, bloating, and digestive discomfort.
- **Muscle and joint pain:** Aches and stiffness in muscles or joints.

The symptoms can be triggered by minute amounts of chemicals, such as those found in cleaning supplies, cosmetics, fuel emissions, or even cigarette smoke. In some cases, even exposure to low levels of environmental pollutants or fragrances can lead to debilitating symptoms that affect daily functioning.

While the list of chemicals that can trigger symptoms is extensive, some of the most common culprits include:

- **Volatile Organic Compounds (VOCs):** These are chemicals that easily vaporize into the air and are found in paints, cleaning products, and air fresheners.
- **Formaldehyde:** A chemical used in some construction materials, furniture, and in tobacco smoke.
- **Pesticides:** Chemical substances used to kill pests, found in both indoor and outdoor environments.
- **Perfumes and Fragrances:** Common in personal care products, air fresheners, and cleaning products.
- **Phthalates:** Chemicals often used to make plastics more flexible, commonly found in toiletries, cosmetics, and household items.
- **Solvents:** Chemicals used in paints, varnishes, and adhesives that may trigger MCS symptoms when inhaled or absorbed through the skin.

In sensitive individuals, even trace amounts of these chemicals can cause significant distress and discomfort.

Risk Factors and Genetic Links to MCS

While the exact causes of MCS remain unclear, researchers believe that a combination of environmental and genetic factors can contribute to its development.

Emerging research suggests that genetics may influence an individual’s susceptibility to MCS. Though the genetics of MCS are not fully understood, several factors may contribute to the condition:

Variants in the genes encoding different **CYP enzymes** can greatly influence [phase I](#) detox ability. Examples include [CYP1A1](#), [CYP2E1](#), [CYP1B1](#), [CYP2A6](#), [CYP2B6](#) and [CYP2D6](#). Variants in these genes are linked to:

- Harmful effects of cigarette smoke [\[R, R, R, R, R\]](#)
- Pesticide sensitivity [\[R, R, R\]](#)
- Air pollution sensitivity [\[R\]](#)

A variant in the [CYP1A2](#) gene may impair **caffeine detox** and contribute to its adverse effects [\[R\]](#).

The [GSTP1](#) gene codes for a [phase II](#) detox enzyme that helps eliminate toxins using the “master antioxidant” [glutathione](#). Studies have linked its variants to harmful effects of **air pollution, cigarette smoke, mercury**, and more [\[R, R, R, R, R\]](#).

The UGT enzymes encoded by genes like [UGT1A1](#) and [UGT2A1](#) are also vital for [phase II](#) detox. They help produce glutathione and remove toxins found in **plastics, cigarette smoke**, and more [\[R, R\]](#).

Other genes that help make glutathione and support its detox function include [GCLC](#), [GSTA1](#) and [GPX1](#). Variants in these genes may influence the detox of **mercury, mold**, and more [\[R, R, R, R\]](#).

The [NAT2](#) codes for another major enzyme in phase II detox. Due to the variants in this gene, people can be “**slow acetylators**”, which means they may have a



TYPICAL LIKELIHOOD

Typical likelihood of multiple chemical sensitivity based on 63 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PON1	rs662	TT
SOD2	rs4880	GG
XPC	rs2228001	TG
UGT2A1	rs10518065	GA
ADH1B	rs1229984	TC
NFE2L2	rs35652124	TT
MTHFR	rs1801133	AA
CYP1B1	rs1056836	GG
NAT2	rs1495741	GA
PON1	rs854560	AT
GCLC	rs761142	CA
CYP1B1	rs1800440	CT
GSTO2	rs156697	GA
SLCO1B1	rs4149056	TC
BCHE	rs1803274	TC
GSTA1	rs3957357	AA
COMT	rs4680	AG
BORCS7	rs743572	AG
UGT2B15	rs1902023	AC
CAT	rs1001179	TC
XRCC1	rs1799782	GG
PTGS2	rs5277	CC
/	rs12228069	GG
MLLT3	rs76878079	GG
MTG1	rs2031920	CC
EGLN2	rs28399433	AA
/	rs2279343	GA
CYP2E1	rs2070673	TA
GSDMB	rs7216389	CT
CSK	rs2606345	AC
UGT2B7	rs7439366	TC
GSTP1	rs1695	AA

harder time detoxing **cigarette smoke and some chemicals and drugs** [R, R, R, R].

While the exact genetic and environmental mechanisms of MCS remain an area of ongoing research, it is clear that a complex interplay between genetic, immune, and environmental factors contributes to the development and severity of the condition.

GENE	SNP	GENOTYPE
ALDH2	rs671	GG
GSTP1	rs1138272	CC
CYP1A1	rs1048943	TT
COX15	rs717620	CC
NFE2L2	rs6721961	GG
NAT1	rs4986782	GG
SLC6A1	rs41293373	GG
CYP2D6	rs3892097	CC
/	rs369692318	TT
TRIM4	rs2740574	TT
SCAMP5	rs2069526	TT
NQO1	rs1800566	GG
NQO1	rs1131341	GG
EPHX1	rs1051740	TT
GPX1	rs1050450	GG
CYP1A2	rs762551	AA
UGT1A6	rs6742078	GG
CYP1A1	rs4646903	AA

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.

- 1

Avoid Volatile Organic Compounds Exposure
- 2

Avoid Exposure to Molds
- 3

Avoid Mercury Exposure
- 4

Avoid Formaldehyde Exposure
- 5

Avoid Pesticide Exposure
- 6

Avoid PCBs
- 7

Optimize Indoor Air Quality
- 8

Avoid Herbicide Exposure
- 9

Avoid Cadmium Exposure
- 10

Avoid Exposure To Toxic Chemicals
- 11

Avoid Triggers
- 12

Avoid Organophosphate Pesticide Exposure
- 13

Avoid Exposure To Organic Solvents
- 14

Avoid Exposure to Heavy Metals
- 15

Avoid Styrene Exposure
- 16

Avoid Contact Triggers
- 17

Avoid Endocrine Disruptors

1



Avoid Volatile Organic Compounds Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Increase ventilation in your living and working spaces by opening windows or using air purifiers with activated carbon filters. Choose low-VOC or VOC-free paints, building materials, and household products. Limit the use of aerosol sprays, solvent-based cleaners, air fresheners, and scented candles. When possible, store products containing VOCs outside of living spaces, and always follow label instructions for proper use and ventilation.

Description

Reducing VOC exposure involves minimizing contact with indoor air pollutants from sources like paints, cleaning products, and certain building materials, which can help prevent respiratory problems and maintain indoor air quality.

How it helps

Avoiding volatile organic compounds (VOCs) helps individuals with Multiple Chemical Sensitivity (MCS) by reducing exposure to irritants that can exacerbate respiratory and neurological symptoms, thereby improving overall well-being and quality of life.

2



Avoid Exposure to Molds

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Keep indoor humidity levels below 50% by using dehumidifiers or air conditioners, ensure proper ventilation in areas like bathrooms and kitchens, fix leaks promptly, and clean up any water damage within 24-48 hours to prevent mold growth. Regularly check and clean places where mold tends to accumulate, such as shower curtains, window sills, and refrigerator drip pans.

Description

[Molds](#) are tiny fungi that live all around us: in the soil and air, on food crops, and even on our skin. Some of them are beneficial while others can wreak havoc on our health. Inhaled mold may cause a range of respiratory symptoms, like infections, asthma, and coughing.

[Molds](#) are tiny fungi that live all around us: in the soil and air, on food crops, and even on our skin. Some of them are beneficial while others can wreak havoc on our health [\[R\]](#).

Inhaled mold may cause a range of respiratory symptoms, including [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Respiratory infections
- Reduced lung function
- Cough
- Asthma worsening

Mycotoxins are the most dangerous aspect of **foodborne mold**. Exposure to higher amounts of these toxins can damage the organs and promote cancer growth [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

Avoiding exposure to molds helps mitigate inflammatory responses and allergic reactions that may exacerbate symptoms of Multiple Chemical Sensitivity (MCS), ultimately leading to improved respiratory function and reduced overall sensitivity to environmental triggers.

3



Avoid Mercury Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Limit consumption of large fish such as shark, swordfish, king mackerel, and tilefish, which are known to have higher mercury levels. Opt for smaller fish like salmon, shrimp, pollock, and catfish, and limit seafood intake to 8-12 ounces (two to three servings) per week. Check and follow local advisories regarding the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas.

Description

Avoiding exposure to mercury, a toxic heavy metal found in certain seafood and environmental sources, is essential to prevent adverse health effects, including neurological damage and developmental issues.

Mercury and other [heavy metals](#) are found in the soil, water, food, and some commonly-used household products. They adversely affect the environment and living organisms. According to some studies, mercury is considered **the most toxic heavy metal** in the environment [\[R\]](#), [\[R\]](#).

A major source of mercury exposure is seafood, especially large fish such as [\[R\]](#):

- Tuna
- Shark
- Swordfish

How it helps

Avoiding mercury exposure assists individuals with Multiple Chemical Sensitivity by reducing the risk of exacerbating symptoms, as mercury can provoke neurological and systemic responses. This preventive measure mitigates potential triggers that can lead to heightened sensitivity and discomfort.

4



Avoid Formaldehyde Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To minimize formaldehyde exposure, choose household products and building materials labeled low-VOC (Volatile Organic Compounds) or formaldehyde-free. Ensure proper ventilation in your living and working spaces, especially when using products known to contain formaldehyde like certain adhesives, cleaning agents, and cosmetics. Aim to reduce use of pressed wood products and seek out alternatives when possible.

Description

Avoiding exposure to formaldehyde, a chemical commonly found in building materials and certain products, is crucial to prevent respiratory problems and potential carcinogenic effects.

How it helps

Avoiding formaldehyde exposure is essential for individuals with Multiple Chemical Sensitivity as this chemical is a known trigger that can exacerbate respiratory symptoms and provoke a range of other discomforts. Reducing exposure helps to mitigate these adverse reactions and improve overall quality of life.

5



Avoid Pesticide Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Purchase organic produce when possible, wash fruits and vegetables thoroughly under running water, and peel them if not organic. Use natural pest control methods instead of chemical pesticides at home and garden. Limit the use of non-organic lawn and garden chemicals.

Description

Pesticides include all chemicals used to kill weeds, insects, fungi, and microbes. Reducing pesticide exposure involves choosing organic or pesticide-free foods and using natural pest control methods to limit contact with potentially harmful chemical residues. It supports overall health by reducing the risk of pesticide-related health issues.

Pesticides include all chemicals used to kill weeds, insects, fungi, and microbes. They are widely used in agriculture to improve crop yields. Common groups of pesticides include:

- Organophosphates (glyphosate, parathion, malathion, chlorpyrifos, diazinon, phosmet)
- Neonicotinoids (imidacloprid, acetamiprid, thiacloprid, clothianidin)
- Pyrethroids (permethrin, alpha-cypermethrin)

Chronic exposure to pesticides has been linked to:

- Fertility problems [\[R\]](#)
- Cognitive problems [\[R\]](#)
- Alzheimer’s and Parkinson’s disease [\[R\]](#), [\[R\]](#)
- Thyroid problems [\[R\]](#)
- Obesity [\[R\]](#)
- DNA damage and cancer [\[R\]](#), [\[R\]](#), [\[R\]](#)

How it helps

Avoiding pesticide exposure minimizes the risk of triggering symptoms in individuals with Multiple Chemical Sensitivity (MCS) by reducing contact with common irritants that can initiate adverse responses. This approach supports symptom management and overall well-being in affected individuals.

6



Avoid PCBs

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid PCBs (Polychlorinated Biphenyls), do not use old electrical equipment manufactured before 1977, avoid consuming fish from contaminated waters, especially larger species such as shark and swordfish which are higher in the food chain, and check for and properly dispose of any old fluorescent lighting fixtures that may contain PCBs. Pay attention to local advisories regarding the safety of locally caught fish and wildlife.

Description

PCBs are toxic chemicals that can cause cancer, reproductive problems, and developmental problems. Avoiding exposure to PCBs is important for protecting your health.

Polychlorinated biphenyls (PCBs) are man-made chemicals. They were used in the industry until their **ban in 1979**. PCBs are considered **persistent organic pollutants** (POPS) due to their slow degradation in the environment. They may also **accumulate** in the food chain and the human body [\[R, R\]](#).

We may be exposed to PCBs through contaminated [\[R, R\]](#):

- **Food** (e.g., fish, meat, rice)
- Soil
- Air

PCBs may have toxic effects on [\[R, R\]](#):

- Immunity
- Nervous system
- Reproductive system
- Hormone levels

They may also increase the risk of cancer and reduce lifespan [\[R, R\]](#).

How it helps

Avoiding PCBs helps mitigate the exacerbation of symptoms in individuals with Multiple Chemical Sensitivity by reducing exposure to neurotoxic compounds, thereby minimizing inflammatory responses and improving overall health outcomes.

7



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](#) ^[R].

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

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 ^[R, R, R]:

- Breathing problems
- Headaches
- Drowsiness
- Brain fog

How it helps

Improving indoor air quality for those with Multiple Chemical Sensitivity reduces exposure to irritants and allergens, thereby minimizing symptoms and enhancing overall well-being. This approach fosters a safer environment that supports respiratory health and comfort.

8



Avoid Herbicide Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Minimize your contact with herbicides by wearing protective clothing such as gloves and masks when handling these chemicals. Choose organic produce when possible to reduce herbicide intake from food sources. Additionally, avoid areas where herbicides are being sprayed and use natural weed control methods in your own garden.

Description

Avoiding exposure to herbicides and pesticides can reduce the risk of potential health concerns associated with these chemicals, such as adverse effects on the nervous system and long-term environmental impacts.

How it helps

Avoiding herbicide exposure helps individuals with Multiple Chemical Sensitivity (MCS) by minimizing their risk of exacerbating symptoms triggered by these chemicals, thus reducing neurological stress and potential adverse reactions within the body.

9



Avoid Cadmium Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid cadmium exposure, refrain from smoking or exposure to secondhand smoke, reduce consumption of foods high in cadmium like shellfish, liver, kidney meats, and certain leafy vegetables, and use ceramic or glass containers instead of plastic when microwaving food. Limit intake of cadmium-contaminated workplace air by using protective gear if you work in battery manufacturing, welding, or metal refining industries.

Description

Avoiding cadmium exposure is essential to prevent potential health risks associated with this heavy metal, such as kidney damage and increased cancer risk. Reducing exposure to cadmium-containing products and contaminated foods is crucial.

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R\]](#), [\[R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R\]](#), [\[R\]](#).

Heavy metals that are most often linked to health problems include [\[R\]](#), [\[R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

Avoiding cadmium exposure mitigates the risk of exacerbating symptoms associated with Multiple Chemical Sensitivity (MCS) by reducing the body’s burden of heavy metals, which are known to trigger adverse reactions and further complicate metabolic and neurological functions.

10



Avoid Exposure To Toxic Chemicals

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To implement this recommendation, avoid using plastic containers for heating food in microwaves, choose personal care products that are free from parabens and phthalates, and use natural cleaning products whenever possible. When handling or being near chemicals such as pesticides or heavy-duty cleaners, wear protective gear such as gloves and masks. Try to reduce the use of products with strong chemical scents or aerosols. Aim to make these changes as a permanent part of your lifestyle to minimize toxic chemical exposure.

Description

Avoiding exposure to toxic chemicals, whether in household products or environmental contaminants, is crucial to prevent potential health issues, including respiratory problems, neurological effects, and long-term health risks.

Toxic chemicals are found everywhere. Short- and long-term exposure to them can be harmful to your health [\[R\]](#), [\[R\]](#), [\[R\]](#).

Short-term exposure may cause [\[R\]](#):

- Skin irritation
- Breathing problems
- Allergic reactions

Long-term exposure may contribute to [\[R\]](#), [\[R\]](#):

- Liver problems
- Reproductive issues
- Hearing loss
- Cancer

Examples of common toxic chemicals include [\[R\]](#), [\[R\]](#):

- Building materials (asbestos, formaldehyde)
- Heavy metals (lead, mercury, cadmium)
- Pesticides and herbicides (organochlorines)
- Industrial chemicals (nitriles, solvents, cleaners)

How it helps

Avoiding exposure to toxic chemicals mitigates the symptoms of Multiple Chemical Sensitivity by reducing triggers that provoke respiratory, neurological, and dermal reactions. This proactive approach diminishes both immediate discomfort and potential long-term health risks associated with chemical exposure.

11



Avoid Triggers

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Identify substances or environmental factors that exacerbate your condition, such as specific foods, stress, or allergens, and actively avoid them. This may involve reading food labels, asking about ingredients when eating out, and making changes to your home or work environment to reduce exposure to identified triggers.

Description

A "trigger" is something that prompts or worsens the symptoms of a health condition. They can be something you eat or come into contact with. Triggers can lead to a wide range of symptoms, such as gut and skin problems and migraines.

A "trigger" is something that prompts or worsens the symptoms of a health condition.

A **food trigger** can be something you eat.

A **physical trigger** can cause a change to your body through physical contact. It can include swimming in cold water or something you touch or inhale [\[R, R, R\]](#).

Triggers can lead to a wide range of symptoms in people who are sensitive to them. These may include [\[R, R, R, R, R, R, R, R\]](#):

- Gut problems
- Skin problems
- Migraines

How it helps

Avoiding triggers is essential in managing Multiple Chemical Sensitivity as it reduces the likelihood of symptom exacerbation. This proactive approach minimizes exposure to harmful substances, leading to improved overall health outcomes and a better quality of life for individuals affected by MCS.

12



Avoid Organophosphate Pesticide Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To reduce organophosphate pesticide exposure, buy organic produce when possible, thoroughly wash and peel fruits and vegetables, avoid using chemical pesticides in your home and garden, and wear protective clothing and a mask if you must handle pesticides for agricultural or landscaping work.

Description

Reducing organophosphate exposure involves minimizing contact with pesticides and insecticides containing these chemicals, which can protect against potential health risks such as neurotoxicity and respiratory issues, particularly for individuals working in agriculture or pest control.

Organophosphates (OP) are the most widely used pesticides worldwide. They include [\[R\]](#):

- Parathion
- Malathion
- Chlorpyrifos
- Diazinon
- Phosmet

Chronic exposure to OPs has been linked to [\[R\]](#), [\[R\]](#):

- Fertility problems
- Cognitive problems
- Nerve damage
- Cancer and gene damage

How it helps

Avoiding organophosphate pesticides helps mitigate symptoms of Multiple Chemical Sensitivity by reducing exposure to neurotoxic agents that can exacerbate respiratory issues and trigger distressing reactions in sensitive individuals.

13



Avoid Exposure To Organic Solvents

IMPACT

1 / 5

EVIDENCE

1 / 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

Avoiding organic solvents helps mitigate symptoms of Multiple Chemical Sensitivity by reducing exposure to potent irritants that can trigger respiratory issues and skin reactions. This protective measure enhances overall well-being and reduces the likelihood of exacerbating MCS symptoms.

14



Avoid Exposure to Heavy Metals

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid exposure to heavy metals, ensure you're not using cosmetic products with heavy metals, opt for organic foods to minimize pesticide exposure, and use filters for drinking water to remove possible contaminants. Check for lead-based paints in older homes and avoid cooking or storing food in uncoated metal containers. When possible, choose glass or BPA-free plastics instead.

Description

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R, R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R, R\]](#).

Heavy metals that are most often linked to health problems include [\[R, R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

Avoiding heavy metals can significantly reduce exposure to neurotoxic substances that may exacerbate the symptoms of Multiple Chemical Sensitivity (MCS). This minimizes the risk of triggering inflammatory responses and further physiological stress on sensitive individuals.

15



Avoid Styrene Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Minimize your use of products made from polystyrene (often labeled with recycling code #6) such as disposable cups, plates, and packing materials. Additionally, limit exposure to indoor environments that may have elevated styrene levels, like those involving the use of fiberglass or certain construction materials and practices. Aim to improve ventilation in your living and working spaces to reduce the accumulation of styrene and other volatile organic compounds.

Description

Avoiding exposure to styrene, a chemical used in various industries, is important to prevent potential health risks, such as respiratory problems and neurological effects.

Styrene is an oil-based chemical used in the manufacture of plastics, rubber, and resins. It is used to make packaging material, as well as latex and styrofoam products. It can also be found indoors as a result of operating photocopiers and laser printers, and from cigarette smoke. Small amounts may be eaten in foods packaged in polystyrene.

While health effects from low exposure to styrene are unknown, exposure to larger amounts can develop irritation of the eyes and lungs. Long-term, excessive exposures can injure the nervous system [\[R\]](#).

How it helps

Avoiding styrene exposure is crucial for individuals with Multiple Chemical Sensitivity, as it helps mitigate symptoms by reducing the likelihood of respiratory irritation and neurological disturbances, thereby enhancing overall quality of life.

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Avoid Contact Triggers

IMPACT

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EVIDENCE

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How to implement

Identify substances or materials that irritate your skin or exacerbate your condition and consistently avoid direct contact with them. This may involve wearing protective clothing or gloves, changing household cleaners or detergents to hypoallergenic options, and carefully reading labels on cosmetics and skin care products to ensure they do not contain irritants specific to your sensitivity.

Description

Identifying and avoiding contact triggers, such as allergens or irritants, can help individuals manage allergies or sensitive skin conditions more effectively, reducing symptoms and improving overall quality of life.

A "trigger" is something that prompts or worsens the symptoms of a health condition.

A contact trigger can be something you touch or inhale. It can include anything from your own sweat to dust in the air [\[R\]](#).

A physical trigger can be anything you come into physical contact with that causes a change to your body. It can include anything from swimming in cold water to wearing tight clothing [\[R\]](#), [\[R\]](#).

In people who are sensitive to them, physical triggers may contribute to vitiligo [\[R\]](#), [\[R\]](#).

In fact, **about 1 in 5 people may have at least one contact trigger**. Common triggers may include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Nickel and cobalt (e.g., jewelry)
- Latex (e.g., rubber gloves)
- Fragrances

Contact triggers may cause or worsen symptoms in people with eczema [\[R\]](#), [\[R\]](#).

How it helps

Avoiding contact triggers is essential in managing Multiple Chemical Sensitivity (MCS) as it mitigates exposure to substances that can provoke or intensify symptomatic reactions. This proactive strategy helps maintain symptom control and enhances quality of life for affected individuals.

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Avoid Endocrine Disruptors

IMPACT

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EVIDENCE

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How to implement

Minimize exposure to endocrine disruptors by opting for organic foods to reduce pesticide intake, using glass or stainless steel instead of plastic containers for food and beverages, avoiding cosmetics and personal care products with parabens or phthalates, and regularly vacuuming and dusting your home to reduce contact with flame retardants found in household dust.

Description

Avoiding exposure to endocrine disruptors, such as certain chemicals found in plastics and pesticides, is crucial for maintaining hormonal balance and reducing the risk of hormone-related health problems.

Endocrine disruptors are chemicals that interfere with the body’s hormone (endocrine) system by [\[R\]](#), [\[R\]](#):

- Blocking the function or activity of hormones
- Mimicking the function of hormones

Based on limited studies, long-term exposure to these chemicals can have negative effects on health [\[R\]](#), [\[R\]](#).

Endocrine disruptors can be found in cosmetics, food products, pesticides, and other common household items [\[R\]](#).

How it helps

Avoiding endocrine disruptors helps individuals with Multiple Chemical Sensitivity (MCS) by minimizing hormonal imbalances that may exacerbate their symptoms and sensitivities, thereby promoting overall health and stability.