

Phase I Detox

Biohacker Report

REPORT CATEGORY —



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

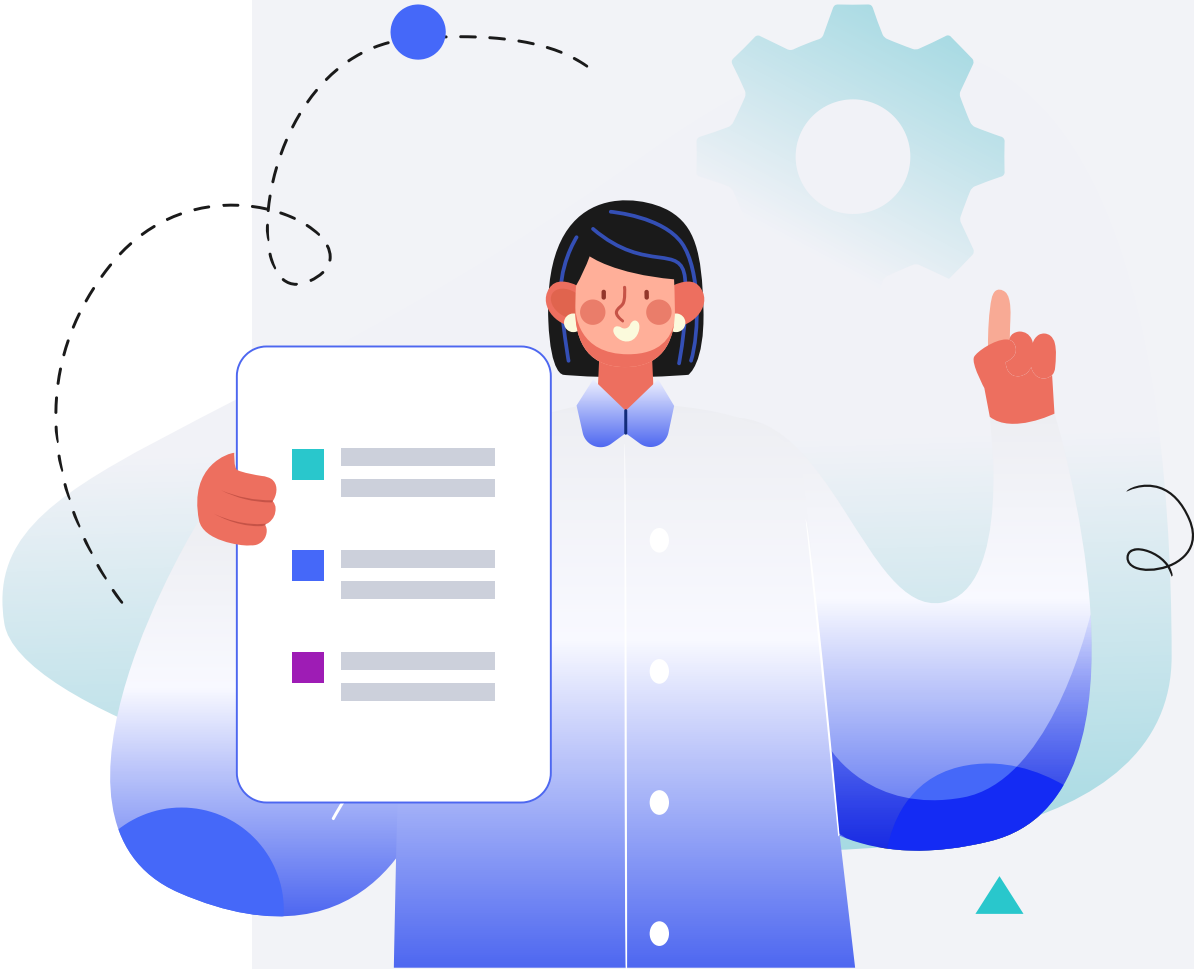
Male

HEIGHT

5ft 5" 165cm

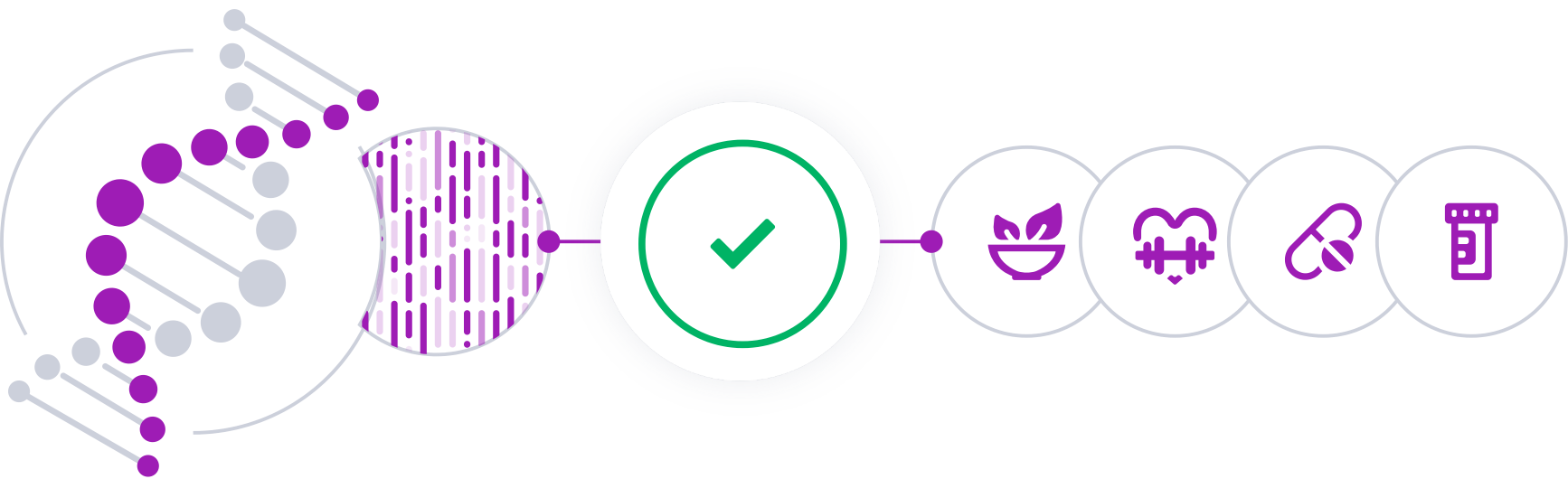
WEIGHT

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.

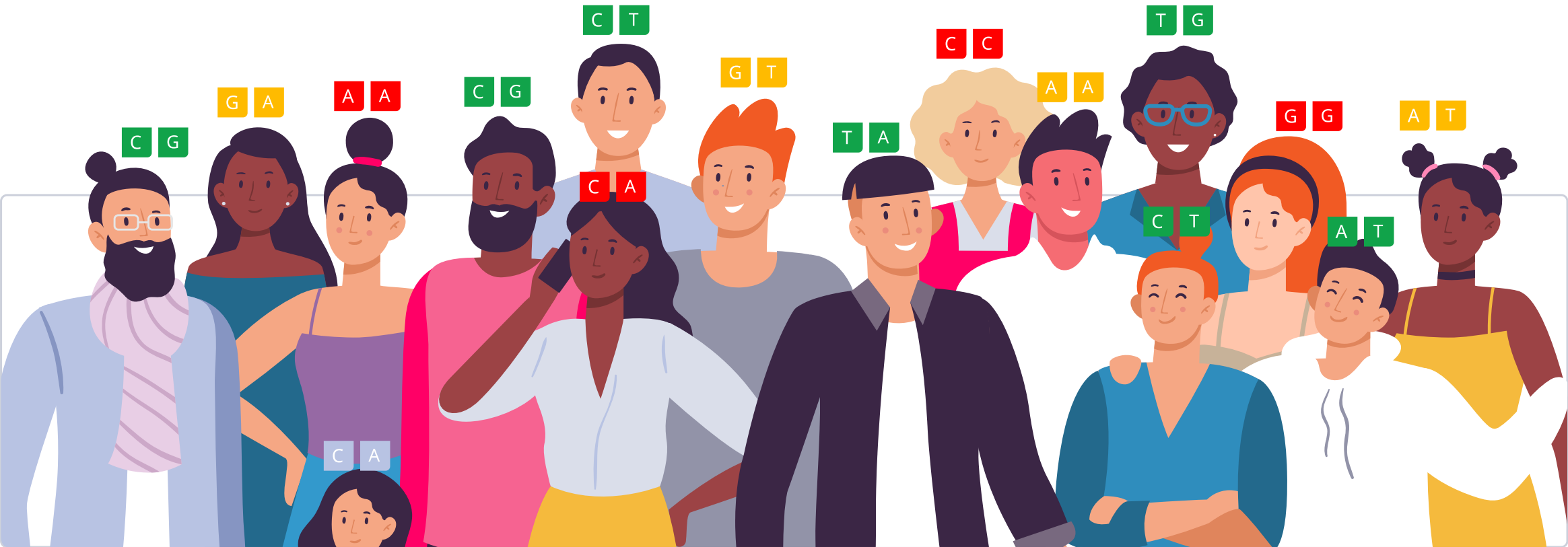


Similarly, our Trait Reports look at how your DNA influences your traits.



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

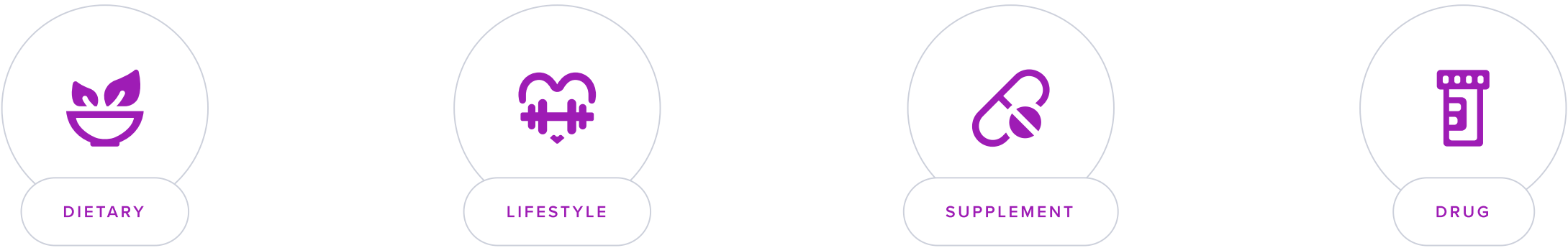
You have 2 risk alleles

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

Detoxification is like the body's cleaning service, working to get rid of toxins or harmful substances that come from our environment, the foods we eat, or even from normal processes in our own bodies. Think of it as a multi-step cleaning process that mostly happens in our liver, split into three main parts or phases. Each of these phases has a special role in breaking down these unwanted substances so that our body can safely get rid of them.

In the first step, called [Phase I](#), the body begins the detoxification process by chemically transforming fat-soluble compounds into water-soluble compounds. Water-soluble compounds can easily be excreted, while fat-soluble compounds can be stored in fat cells, where they are protected from the body’s detoxification enzymes [\[R\]](#).

Phase I reactions include oxidation, reduction, hydrolysis, and cyclization, which are mediated by [\[R, R, R, R, R\]](#):

- [CYP enzymes](#) (cytochrome P450)
- The more selective flavin-containing monooxygenases (FMOs, responsible for the detoxification of [nicotine](#) from cigarette smoke)
- Monoamine oxidases (MAOs, which break down [serotonin](#), [dopamine](#), and epinephrine in neurons)
- Alcohol and aldehyde dehydrogenases (which metabolize alcohol)
- Epoxide hydrolases (EH)
- Other phase I enzymes

However, sometimes this process can make certain toxins more reactive, so it’s crucial that the next step ([Phase II](#)) quickly takes over.

Genetics of Phase I Detoxification

Some people might have genetics that make crucial detox components work differently. Recognizing that each of us might detoxify differently because of our unique genetic makeup is an important step towards personalized healthcare and keeping ourselves healthy.

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 [\[R\]](#).

Alcohol detox is crucial to minimize its side effects, especially if consumed in higher amounts. Two genes, [ADH1B](#) and [ALDH2](#), help make enzymes that process alcohol, and their variants can greatly affect detox potential [\[R\]](#).

Another phase I enzyme, [PON1](#), helps by detoxing **pesticides (organophosphates)** and other toxins [\[R\]](#), [\[R\]](#).

Finally, [NQO1](#) is involved in fighting oxidative stress, DNA damage, and **benzene** toxicity [\[R\]](#), [\[R\]](#), [\[R\]](#).



Predisposed to typical phase I detox ability based on 32 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
UGT2A1	rs10518065	GA
ADH1B	rs1229984	TC
CYP1B1	rs1056836	GG
/	rs72547513	CC
BORCS7	rs743572	AG
CYP1B1	rs1800440	CT
CYP1B1	rs10012	GC
CYP2D6	rs16947	GA
/	rs2279343	GA
CYP2E1	rs2070673	TA
CSK	rs2606345	AC
CYP1B1	rs1056827	CA
CSK	rs2472304	AG
CYP2E1	rs2480256	GA
CYP2E1	rs1329149	CT
CYP2E1	rs2070676	CG
ALDH2	rs671	GG
CYP1A1	rs1048943	TT
NAT1	rs4986782	GG
CYP2D6	rs3892097	CC
TRIM4	rs2740574	TT
EPHX1	rs1051740	TT
CYP1A2	rs762551	AA
CYP1A1	rs4646903	AA
CYP2C19	rs4244285	GG
CYP2A6	rs1801272	AA
CYP1A1	rs1799814	GG
CYP2D6	rs1065852	GG
SYCE1	rs8192772	TT
CYP2E1	rs6413419	GG
EGLN2	rs28399433	AA
XRCC4	rs28383151	GG

GENE	SNP	GENOTYPE
CYP2C9	rs1799853	CC
NOC3L	rs12248560	CC
CYP2C9	rs1057910	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.

DOSAGE		DOSAGE	
1	Avoid Endocrine Disruptors	2	Avoid Substance Abuse
3	Superoxide Dismutase100 mg	4	Activated Charcoal500 mg
5	L-Carnitine1 g	6	Antioxidant Supplements
7	Avoid Pesticide Exposure	8	Avoid Exposure To Toxic Chemicals
9	Glutathione supplements	10	Limit Substance Use
11	Dietary Antioxidants	12	Elimination Diet
13	Phosphatidylcholine420 mg	14	N-acetylcysteine (NAC)1200 mg
15	Chlorophyll100 mg		

1



Avoid Endocrine Disruptors

IMPACT

1 / 5

EVIDENCE

1 / 5

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 during Phase I Detox promotes hormonal equilibrium by minimizing interference with the endocrine system, thereby supporting the body's natural detoxification processes and enhancing overall health outcomes.

2



Avoid Substance Abuse

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Eliminate the use of illegal drugs, excessive alcohol, and tobacco from your daily routine. Seek professional help if needed to stop substance use and engage in support groups or counseling for sustained recovery. Implement this change permanently for long-term health benefits.

Description

Substance abuse is the excessive use of alcohol or drugs. It can lead to dependence on the substance. Abusing drugs or alcohol can have long-term health and social consequences.

Substance abuse is the excessive use of alcohol or drugs. It can lead to dependence on the substance [\[R\]](#).

Abusing drugs or alcohol can have long-term health and social consequences [\[R\]](#).

How it helps

Avoiding substance abuse during Phase I Detox enhances the body's natural detoxification processes by reducing the burden on the liver and kidneys, allowing them to function effectively in eliminating toxins. This proactive approach supports overall metabolic health and recovery.

3



Superoxide Dismutase

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take superoxide dismutase supplements in the form of capsules or tablets, typically ranging between 100 to 500 mg per day. It's best taken on an empty stomach for optimal absorption, and users should consult with a healthcare provider for personalized dosage instructions based on their specific health conditions. This supplement is usually taken for periods ranging from a few weeks to several months, depending on the intended health benefit and individual response.

TYPICAL STARTING DOSE

100 mg

Description

Superoxide dismutase (SOD) is an enzyme that helps to protect cells from damage caused by free radicals. SOD helps to neutralize free radicals by converting them into harmless molecules.

How it helps

Supplementing with Superoxide Dismutase (SOD) aids in reducing oxidative stress by neutralizing superoxide radicals, thereby protecting cellular integrity during Phase I detoxification. While it may not directly enhance detox pathways, its protective effects on cells can support overall health during detoxification.

4



Activated Charcoal

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500-1000 mg of activated charcoal with a full glass of water at least 1 hour before a meal or 2 hours after a meal. Do not consume it daily for long periods; use it for short-term detoxification or occasional upset stomach only.

TYPICAL STARTING DOSE

500 mg

Description

Activated charcoal is a porous substance that is highly effective at absorbing and trapping toxins and chemicals in the digestive tract. It is sometimes used in emergency medical settings for poisoning treatment and in certain beauty and wellness products.

How it helps

Activated charcoal aids in the Phase I detox process by binding to toxins and chemicals in the gastrointestinal tract, reducing their absorption into the bloodstream. This mechanism enhances the body's natural detoxification pathways, promoting overall health.

5



L-Carnitine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of L-carnitine supplement daily with a glass of water, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

1 g

Description

L-carnitine is an amino acid-like compound that plays a role in energy metabolism and helps prevent toxic substances from building up in cells. It is often used in dietary supplements for its potential to support muscle recovery, reduce fatigue, and enhance athletic performance.

[L-carnitine](#) is a compound that helps you burn fat. It also prevents toxic substances from building up in cells [\[R\]](#).

Your body can usually make enough carnitine to meet its needs. You can also get it from **meat and dairy products** [\[R\]](#).

People use L-carnitine for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart problems
- Overactive thyroid
- Fertility problems
- Blood sugar control
- Weight control

How it helps

L-Carnitine enhances energy metabolism by facilitating the transport of fatty acids into mitochondria, thus supporting cellular energy production. This process helps mitigate toxic accumulation in cells, contributing positively to the Phase I detoxification process.

6



Antioxidant Supplements

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take an antioxidant supplement daily with a meal to enhance absorption. The specific dose may vary depending on the type of antioxidant (e.g., vitamin C, vitamin E, selenium), but a common multivitamin or antioxidant blend can be used as directed on the product label. Consult with a healthcare provider for personalized advice and dosage.

Description

Antioxidant supplements are dietary supplements that provide concentrated doses of antioxidants, such as vitamins C and E or coenzyme Q10, to help combat oxidative stress and reduce the risk of chronic diseases.

Our cells sometimes produce molecules called **reactive oxygen species (ROS)** [\[R\]](#).

High levels of ROS can cause [oxidative stress](#) and damage our cells. Oxidative stress plays a role in many health conditions, including [\[R\]](#):

- High blood sugar
- Type 2 diabetes
- Heart disease

Antioxidants are substances that help combat ROS [\[R\]](#).

Some common antioxidants include [vitamin C](#) and [vitamin E](#). You can get most antioxidants from fresh fruits and vegetables. **Antioxidants are also available as supplements** [\[R\]](#), [\[R\]](#).

How it helps

Antioxidant supplements aid Phase I detox by neutralizing free radicals, thereby reducing oxidative stress and supporting liver function. This promotes efficient detoxification processes, helping the body eliminate harmful substances more effectively.

7



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 enhances Phase I detoxification by reducing the chemical burden on the liver, allowing for improved metabolic processing and elimination of toxins. This contributes to better overall health and mitigates the risk of pesticide-related illnesses.

8

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 during Phase I Detox is essential as it aids the liver's detoxification process, reducing the body's toxic burden and enhancing the elimination of harmful substances. This approach minimizes potential complications and supports overall metabolic health.

9



Glutathione supplements

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take glutathione supplements orally, usually in pill or powder form, with a recommended dose ranging from 500mg to 1000mg daily, divided into two doses. It's best taken on an empty stomach or as directed by a healthcare professional. Continuous use is advised for sustained benefits, but consulting with a healthcare provider for personalized advice and duration is important.

Description

Glutathione (GSH) is your body’s strongest antioxidant. It has an enormous capacity to combat [oxidative stress](#) and neutralize harmful free radicals. Chemically speaking, glutathione is a tripeptide made up of 3 amino acids [\[R\]](#):

- [Glutamate](#)
- **Cysteine**
- [Glycine](#)

Low glutathione levels have been linked to cognitive decline, age-related disease, and general mortality among the elderly [\[R, R\]](#).

People take glutathione supplements to help with:

- Oxidative stress and detox
- Immune system support
- Skin aging and damage
- Exercise recovery
- Chronic diseases such as type 2 diabetes, Alzheimer's disease, Parkinson's disease, or COPD

How it helps

Glutathione supplements enhance the body's detoxification process by promoting the conversion of toxins into water-soluble forms that can be easily excreted. Additionally, they reduce oxidative stress, thereby protecting cells from damage during Phase I detoxification.

10



Limit Substance Use

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Reduce the frequency and quantity of alcohol, tobacco, and any non-prescribed drugs you consume. For alcohol, aim to have no more than one drink per day if you're female and two if you're male. Avoid tobacco and non-prescribed drugs entirely whenever possible.

Description

Limiting substance use, particularly the misuse of alcohol, tobacco, and illicit drugs, is essential for preserving physical and mental health. Responsible and controlled use of these substances, or abstaining from them, supports a safer and healthier lifestyle.

Substances include alcohol and drugs. In some cases, substances can be used responsibly. For example, having 1-2 alcoholic drinks per day likely won't cause harm. Likewise, cannabis can be used for medical purposes in some countries or states [\[R\]](#), [\[R\]](#), [\[R\]](#).

However, these substances can also be misused. Substance misuse can lead to dependence on a substance. This can have long-term health and social consequences [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Even at low or prescribed doses, alcohol and some drugs can have side effects like palpitations [\[R\]](#), [\[R\]](#).

How it helps

Limiting substance use during Phase I Detox is crucial as it reduces the body's toxin load, allowing the liver and other organs to focus on eliminating existing toxins more effectively. This approach enhances overall health and contributes to a more successful detoxification process.

11



Dietary Antioxidants

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate foods rich in antioxidants, such as fruits (berries, oranges, plums), vegetables (spinach, kale, bell peppers), nuts (walnuts, almonds), and seeds (flaxseeds, chia seeds) into your daily meals. Aim for at least 5 servings of fruits and vegetables per day, ensuring a variety of colors to cover different antioxidants.

Description

Dietary antioxidants are compounds found in foods that help neutralize harmful molecules called free radicals, potentially reducing the risk of oxidative stress-related diseases and supporting overall health. Examples include vitamins C and E, beta-carotene, and polyphenols.

Our cells sometimes produce molecules called **reactive oxygen species (ROS)** [\[R\]](#).

High levels of ROS can cause [oxidative stress](#) and damage our cells. Oxidative stress plays a role in many health conditions, including [\[R\]](#):

- High blood sugar
- Type 2 diabetes
- Heart disease

Antioxidants are substances that help combat ROS [\[R\]](#).

Antioxidants are found in many plants. Good sources include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Fruits like tomatoes, berries, and pomegranates
- Vegetables like onions, spinach, and celery
- Chocolate
- Olive oil
- Wine

How it helps

In Phase I Detox, dietary antioxidants facilitate the conversion of harmful substances into less toxic compounds, enhancing the liver's detoxification process. This reduction of oxidative stress supports cellular health and promotes overall metabolic efficiency.

12



Elimination Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Begin by removing foods you suspect might be causing adverse reactions for 2-3 weeks. These often include dairy, gluten, soy, nuts, eggs, corn, and processed sugars. After this period, reintroduce each food group one at a time every 3 days, while noting any symptoms that may reappear. This process helps identify food intolerances or sensitivities.

Description

An elimination diet involves removing specific foods or food groups from the diet to identify and address potential food sensitivities or allergies. It can help alleviate symptoms such as digestive issues, skin problems, and allergic reactions by pinpointing trigger foods.

An elimination diet omits foods that can cause your body to have a reaction. Foods are removed for a period of time and then added back in. This helps figure out what foods are causing symptoms or making them worse [\[R\]](#).

Salicylates are compounds naturally found in many foods and drinks. These include wine, tea, beans, and tomatoes [\[R\]](#), [\[R\]](#).

One form (*salicylic acid*) is found in aspirin. People who are sensitive to salicylates may have a reaction to aspirin and other NSAIDs [\[R\]](#), [\[R\]](#).

How it helps

Implementing an elimination diet during Phase I detox helps to identify and remove food triggers that may exacerbate toxin accumulation, thereby optimizing the body's natural detoxification pathways and reducing related symptoms.

13



Phosphatidylcholine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 420-900 mg of phosphatidylcholine supplement daily, ideally with meals to enhance absorption. Continue this regimen for at least 3 months to evaluate its effects on your health.

TYPICAL STARTING DOSE

420 mg

Description

Phosphatidylcholine is a crucial phospholipid found in cell membranes throughout the body, particularly in the brain. It plays a vital role in cognitive function and liver health, supporting processes like cell signaling and fat metabolism.Phosphatidylcholine can be derived from soybeans and other sources, and it is often used as a dietary supplement to promote brain health and liver function.

[Phosphatidylcholine](#) is a key component of cells [\[R\]](#).

It helps [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Maintain cell structure
- Protect the lungs, gut, liver, and nerves
- Break down fats

Because [choline](#) is needed to make phosphatidylcholine, low choline levels can limit its production [\[R\]](#).

How it helps

Phosphatidylcholine enhances liver function by promoting healthy cell membrane integrity and facilitating fat metabolism, thereby supporting the detoxification processes essential in Phase I Detox.

14



N-acetylcysteine (NAC)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 600 mg of N-Acetylcysteine (NAC) supplement daily with water. It can be taken at any time of the day, but try to take it at the same time each day for best results.

TYPICAL STARTING DOSE
1200 mg

Description

NAC is a supplement that contains a form of the amino acid cysteine, a protein building block that your body uses to make the antioxidant glutathione. It is used for its potential antioxidant properties and its ability to support lung, gut, and mental health.

[N-acetylcysteine](#) (NAC) is converted to cysteine in the body. Cysteine is a protein building block (amino acid) that helps make the antioxidant glutathione [\[R\]](#).

People take NAC to potentially support [\[R\]](#), [\[R\]](#):

- Mental health
- Ovarian health and pregnancy outcomes
- Lung health
- Gut health

How it helps

N-acetylcysteine (NAC) enhances the production of glutathione, a critical antioxidant involved in Phase I detoxification in the liver. By promoting this process, NAC aids in neutralizing free radicals and enhancing the body’s ability to eliminate toxins, thereby supporting overall detox efficacy.

15



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

Chlorophyll may assist in Phase I detox by enhancing the liver's ability to process and eliminate toxins, potentially improving detoxification efficiency. Its antioxidant properties can also combat oxidative stress, supporting overall cellular health during detoxification.