Avoiding Toxins

HOW TO REDUCE YOUR EXPOSURE TO TOXINS

By Paul Savage, MD

MEDICAL ADVISOR: HEATH A. JOLLIFF, DO, FACMT, FAAEM, FACEP

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To everyone whose life has been affected by environmental toxins—
may these pages offer awareness, hope, and practical steps
toward a cleaner, healthier way of living

.

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FOREWORD

As a medical toxicologist, my work sits at the intersection of exposure, evidence, and uncertainty. I am frequently asked to help people make sense of an increasingly complex environment filled with warnings, headlines, and conflicting claims about what is "toxic." Toxicology rarely offers simple answers. Risk is shaped by dose, duration, timing, and individual susceptibility. The presence of a substance alone does not determine harm, and exposure does not equate to disease.

That nuance is often lost in public discussions of environmental health, which tend to polarize into dismissal or alarm. Neither serves the public well. Responsible guidance requires proportionality, transparency, and humility regarding the limits of current knowledge.

This book, Avoiding Toxins, succeeds in striking that balance.

This book takes a practical, prevention-oriented approach.

Rather than portraying the modern world as inherently dangerous, this book takes a practical, prevention-oriented approach. It focuses on reducing unnecessary and modifiable exposures while acknowledging that complete avoidance is neither realistic nor required for health. This perspective aligns with both clinical toxicology and public health, where emphasis is placed on cumulative exposure, modifiable risk, and individual variability rather than absolutes. Importantly, the authors do not promise detoxification or guaranteed outcomes, nor do they suggest that environmental exposures inevitably lead to illness. Patterns over time, context, and susceptibility are emphasized. Established evidence is distinguished from emerging or debated data, and uncertainty is acknowledged where it exists. This distinction matters, as mechanistic hypotheses often advance more rapidly than definitive human outcome data.

I was encouraged by the book's consistent rejection of fear-based framing. The authors prioritize incremental change over perfection and remind readers that health is shaped by many factors beyond exposure alone. Environmental risk is presented as one component of a broader clinical and lifestyle context.





FOREWORD

Several sections address areas where scientific understanding is still evolving, including endocrine signaling, immune response, and mold exposure. Associations described in these contexts should not be interpreted as uniform risk or predictable outcomes. Individual responses vary widely, and similar symptom patterns can arise from many different causes. This book does not replace medical evaluation or diagnosis, nor is it intended to do so.

For clinicians, the tone will feel familiar: measured, evidence-aware, and proportionate. For non-medical readers, it offers guidance that informs without alarming. Recommendations are practical, flexible, and intended to reduce unnecessary exposure without increasing anxiety.

Environmental health is not about fear. It is about understanding risk well enough to live wisely within it.

Environmental health is not an all-or-nothing pursuit. Health is not achieved through purity or vigilance, but through cumulative, reasonable decisions made within real-world constraints. This book respects that balance.



Environmental exposure science also does not exist in isolation. Occupational conditions, access to care, baseline health, and broader social factors all influence outcomes. Meaningful prevention reflects both individual choices and systems-level context.

Avoiding Toxins does not claim to offer final answers. Instead, it provides a framework for thinking critically about exposure, risk, and choice. That perspective, more than any checklist or recommendation, is its greatest strength.

Be well,
Heath A. Jolliff,
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INTRODUCTION

WHEN MODERN LIFE OUTPACED HUMAN BIOLOGY



For most of human history, exposure was episodic. A contaminated water source. A specific plant. An occupational hazard. The body met a threat, responded, cleared it, and returned to balance.

Today, exposure is no longer isolated. Instead, it is layered, ongoing, and cumulative. Physicians who have spent decades focused on prevention and healthy aging have watched this shift unfold in real time; it is ever-present in the foreground of everyday life.

Air, water, food, and the everyday products we use in our homes and on our bodies now deliver repeated low-level chemical exposures. Individually, many of these exposures are not enough to cause immediate illness. Over time, however, they may place persistent stress on the body. Clinicians describe this concept as cumulative exposure or environmental load. Others refer to this as the total toxin burden.

What we see now is not the result of carelessness or lack of awareness, but constant exposure. Thousands of synthetic and naturally occurring chemicals are used globally, with production increasing annually. While many chemicals have established hazard and toxicity data, important uncertainties remain regarding chronic low-dose exposure, combined chemical effects, and long-term health outcomes in real-world settings. Practically everyone has toxins, though the types and amounts vary widely.

Disclaimer: This guide is for educational purposes only and is designed to support general health and wellness. It is not intended to diagnose, treat, cure, or prevent any disease. Please consult your healthcare provider before making changes to your health routine.

Why the Body Struggles to Keep Up

The human body has robust detoxification and repair systems. However, in some individuals, cumulative exposure over time may exceed the body's ability to adapt.

Many modern substances do not behave like naturally occurring toxins. Some persist. Some resist. Some mimic hormones. Others interfere with how cells communicate with each other. Some substances can cause damage to your cells when exposed to sufficient doses or with prolonged exposure. Over time, this can slow the body's ability to repair itself, regulate inflammation, and maintain a healthy balance.

The result is rarely a sudden illness.

It is often a subtle change.

Energy dips.

Recovery takes longer.

Hormonal systems may respond sluggishly.

Inflammation may become more chronic rather than acute.

These shifts often appear long before disease. These changes are easy to dismiss, often attributed to aging, stress, or lifestyle factors.





From Exposure to Impact

Most people think illness begins with a diagnosis. A lab result. An exam. A name for what is wrong.

But long before disease appears on a chart, small biological changes may already be underway. Modern exposure rarely arrives dramatically.

It occurs through ordinary daily activities: the air you breathe, the water you drink, the food you eat, and the lotions you apply to your skin.

What matters most is not the single exposure, but the daily accumulation. Exposure is only the first step.

Once these compounds enter circulation, they do not behave like nutrients. They do not support repair or energy production. They interfere with and disrupt a variety of critical biological processes and signals. Usually, this interference does not cause immediate injury, but perhaps low-grade inflammation. Not the type that causes a fever, but the type that, over time, may alter how the body feels and performs. Signals may become less precise. Processes may slow. Systems that once functioned efficiently may require more effort to maintain balance.



The Energy Equation Changes

One of the earliest systems affected by these chemical stressors is energy production.

Our mitochondria, the tiny cellular structures inside our cells responsible for creating energy, are sensitive to oxidative stress and immune activation. When under constant pressure, energy output can start to decline.

This is often where individuals first notice something feels off. Not exhaustion, but fatigue that does not fully resolve. Not confusion, but brain fog that makes thinking feel heavier. Not weakness, but slower recovery and reduced tolerance to physical or psychological stress.



Nothing dramatic.

Nothing diagnostic.

Just a sense that the body no longer acts the way it once did.

As the exposure to toxins accumulates, energy production is strained, and the regulation of the immune system may begin to shift. The immune system is not necessarily weaker, but less precise.

It may overreact to otherwise harmless triggers, showing up as a new sensitivity or allergy. It may underperform when protection is needed, leading to more frequent infections or slower healing. In some cases, the immune system may become so confused and overwhelmed that it begins to attack the body.





When Bodies Drift Toward Vulnerability

The body keeps score. Over time, low-grade inflammation, impaired energy production, and an altered immune response can create a gradual shift in physiology.

Repair slows.
Resilience declines.
Aging may accelerate.

This is where genetics plays a role — not as destiny, but as direction.

With chronic biological strain, the low-grade inflammation often exploits our genetic weaknesses. For some, this may involve cardiovascular function. For others, metabolism, immune balance, or cognitive health.

Importantly, this drift often occurs long before the disease is detectable. Long before anything appears on a scan or a lab report. By the time a diagnosis is made, the underlying process may have been ongoing for years.







Understanding the Window Before Disease

This phase is easy to overlook because it does not fit neatly into traditional diagnostic categories. Symptoms may be vague. Tests may still appear normal. People are often reassured that nothing is wrong or that symptoms reflect aging or stress.

And yet, the body may be signaling. Quietly. Consistently.

Many patients present not with a single complaint or lab abnormality, but with a hard-to-recognize pattern pointing to cumulative strain, rather than one single issue. This window, after exposure and before diagnosis, is where prevention has the greatest impact.

- **By reducing unnecessary exposure.**
- **By supporting the body's innate ability to repair.**
- **By understanding the effects of cumulative load, the conversation shifts.**

The goal is not to create fear or treat every symptom. The goal is to understand that the function inside the body often changes long before disease appears, and that by addressing environmental chemicals, this may influence the long-term trajectory of the disease.

This is not about an alarm. It is about timing.

Looking Ahead

If environmental exposure is ongoing and biological effects accumulate quietly, the next question becomes unavoidable:

"What can be reduced and what requires support?"

The answer to those questions sets the stage for everything that follows.



Skipping to the End

For readers who prefer to take immediate action, we have prepared an example of possible recommendations. We encourage you to read the chapters for more detail, and make your decisions, whether a product is listed below, or you find a product based on your own research.

Our purpose for this book is to show you that it is not difficult to incorporate these changes into your life. Just do it at a pace that makes sense to you.

If you think there are too many toxins and that they are everywhere, you are correct. But if we can provide any encouragement and hope, it is never too late to make changes, and each change builds on the next, and that is worth your time and effort.

Remember that rule number one of living in a toxic world is to "stop putting them in." For readers who prefer a ready-to-use plan, here is one possible place to begin.

Air

- Open all doors and windows when possible.
- Leave the bathroom and oven vents turned on when possible.
  - Frigidaire 30" Wall-Mounted Range Hood – a smart choice
- When it is not possible to leave doors and windows open, use:
  - Midea Dehumidifier MAD35S1QWT one upstairs, one downstairs
  - No candles, fragrances, or harsh chemical sprays

Water

- For water consumption, use a Klean Kanteen. You will want more than one.
- Some of the better drinking water reverse osmosis (RO) systems are GE, Culligan, and Water Filtration Systems under-the-sink models.

Food

- Eat organic and fresh food and wash well before consuming.
- Do not heat up food in plastic containers.
- Kirkland Signature Stainless Steel is excellent cookware.
- Homearray Stainless Steel Containers are safe, easy to clean, easy to store.



Home

DIY Cleaners are affordable and effective.

ECOS detergent.

For laundry, choose a fragrance-free detergent and use wool dryer balls to help reduce static cling.

ECOS Dish soap: Free and Clean

When possible, choose wood for furniture and tile for flooring.

Test your home for mold.

Beauty

Goop

Formless Beauty

Wellnesse

are examples of our go-to online stores for skincare, shampoo, conditioner, and makeup.

Product Disclosure: *The brands and products included in this book are provided as examples for informational purposes and do not constitute endorsements. Unless otherwise disclosed, the authors and MDLifespan have no financial affiliation with the companies listed and receive no compensation from their inclusion. Products and formulations may change; readers should conduct their own research and consult an appropriate professional when needed.*







CHAPTER 1

CLEAN AIR



"A man can do without food for several days and live a day altogether without water, but it is impossible to carry on without air even for a minute."

Mahatma Gandhi

We spend much of our time indoors, at home, at work, in cars, and at school. Modern buildings are designed to be energy efficient, which often means they are tightly sealed, windows do not open, and air recirculates. That efficiency has benefits, but it also allows airborne contaminants to linger and concentrate.

Research shows that fine particulate matter can affect not only respiratory health but also cardiovascular health. Microplastics have been detected in indoor air and, in limited studies, in human tissues. *(The clinical significance of these findings, however, remains under investigation.)* Indoor air contains measurable amounts of microplastic particles, with concentrations varying by environment and sampling method.

Indoor air may contain:

- **Fine particulate matter.**
- **Mold spores and allergens.**
- **Volatile organic compounds (VOCs) from paints and flooring.**
- **Byproducts from cooking and cleaning.**
- **Synthetic fragrances and off-gassing from furniture and materials.**

These exposures may seem insignificant. But low-level exposure delivered repeatedly can contribute to cumulative exposure over time, particularly in susceptible individuals.

Start Where You Can



You do not need to control everything. In fact, trying to do so often backfires. What matters most is focusing on making meaningful changes that reduce exposure without turning daily life into a project.

Ventilation

Air that does not move does not clear. Cooking, cleaning, and bathing all release airborne particles and moisture. Without effective ventilation, these byproducts can accumulate indoors. Venting during these moments matters more than keeping windows closed year-round.

Filtration

High-quality filtration helps reduce particles that would otherwise recirculate indoors. This includes both HVAC filters and strategically used portable air purifiers. Effectiveness depends on appropriate sizing, placement, and routine filter replacement.

Source Reduction

Fragrance, candles, sprays, and harsh cleaners contribute to chemicals in the home more than most people realize. Many of these products emit volatile organic compounds that linger after use. Reducing what enters the air often matters more than trying to clean it afterward.

Moisture Control

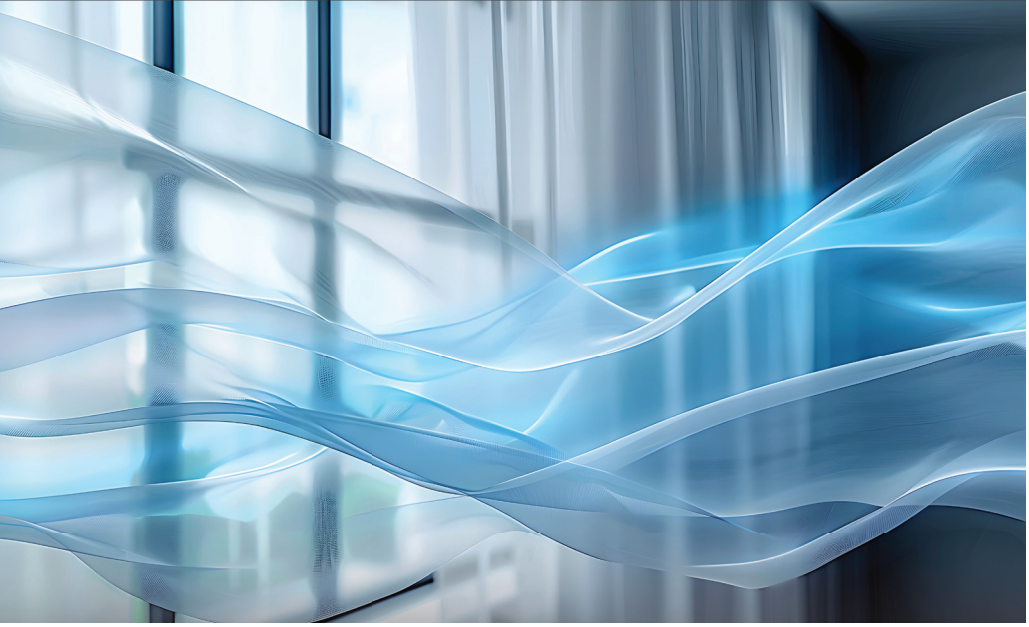
Humidity creates conditions in which mold and dust mites thrive. Keeping indoor humidity in a healthy range reduces one of the most common and preventable indoor air quality issues.

Awareness, Not Obsession

Monitoring can be helpful, but data should guide decisions, not create anxiety. Clean air is about trends and patterns, not perfection.









Easy Steps to Take Right Now

If you do nothing else, start here:

Use kitchen and bathroom exhaust fans consistently.	Replace HVAC filters with MERV 13 or MERV 17 filters if your HVAC can handle it.	Address visible moisture or musty smells promptly.
Open windows when outdoor air quality allows.	Avoid synthetic fragrances, candles, air fresheners, and cleaning sprays.	Leave shoes outside the house to prevent tracking toxins indoors.

Some environments need more support—older homes, humid climates, urban settings, new construction, or households with infants, pets, or immune-sensitive individuals.

This is where upgrades may be helpful:

HEPA air purifiers in sleeping and living areas.	Dehumidifiers in moisture-prone spaces.	Better ventilation in cooking areas.	Targeted monitoring to understand patterns.

These tools are optional based on your health goals and not universal requirements.



CLEAN AIR:
RECOMMENDED PRODUCTS & RESOURCES

Air Purifiers

Air purifiers equipped with HEPA filters are powerful tools for enhancing indoor air quality. Their remarkable ability to capture 99.97% of particles as small as 0.3 microns, far tinier than human hair, ensures they remove many airborne contaminants. HEPA filters can capture many airborne particles, including common allergens such as pollen, pet dander, and dust. HEPA air purifiers offer a defense against the invisible pollutants that can affect our health and well-being.

(According to Consumer Reports and Wirecutter Magazine, the following air purifiers were tested to remove at least 99.97% of particles, including pet dander, pollen, mold, allergens, and dust. Performance claims are limited to particle reduction under standardized testing conditions. Pricing is approximate and listed as of publication of this guidebook.)



PRODUCT	Room Size	Filter Type	Price	Review Source
LARGE ROOMS				
Coway Airmega ProX cowaymega.com	650 sq ft	4-stage HEPA filter	$999.00	CR Rating: 85 Wirecutter
AirOasis I Adapt 2.0 Pro airoasis.com	1,000 sq ft	HEPA H13	$899.00	Trustpilot: 4.6/5
Blue Air Signature blueair.com	3,000 sq ft	7-stage HEPA Silent	$449.00	Wirecutter
MEDIUM ROOM				
Blue Air Pure - 311i +Max blueair.com	650 sq ft	7-stage HEPA filter	$199.00	Wirecutter
AirOasis i Adapt Air 2.0 Medium airoasis.com	530 sq ft	HEPA H13	$559.00	Trustpilot 4.6/5
SMALL ROOM				
Blue Air Pure 311i Max blueair.com	350-650 sq ft	7-stage HEPA filter	$229.00	CR: 73
Coway Airmega AP-1512HH Mighty cowaymega.com	360 sq ft	4-stage HEPA filter	$199.00	Wirecutter

Quick Tip: Regularly replacing your HVAC air filters is essential for supporting a healthy home environment. A clean filter is more effective at trapping pollutants to improve air quality and reduce allergy symptoms.



Air Purifiers for your Car



Traffic-related air pollution (TRAP) has been associated in observational studies with adverse neurological and cardiopulmonary outcomes. Higher-efficiency cabin air filters may reduce particulate exposure inside vehicles.

Order online from Bosch: **boschautoparts.com**	IQAir external HEPA Filter for vehicles not covered by the Bosch options: **iqair.com**

Range Hoods & Exhaust Fans

Range hoods and exhaust fans remove moisture and cooking byproducts at their source. Vented-to-outdoors systems provide the most meaningful pollutant reduction. This proactive approach improves air quality and helps reduce the risk of respiratory issues, allergies, and other health problems associated with indoor air pollution.

Frigidaire 30” Wall-Mounted Range Hood: **frigidaire.com**	Cosmo Appliances 30” Wall-Mount Range Hood: **cosmoappliances.com**	Kaze Appliance SNP100 Exhaust Fan: **kazeappliance.com**







Vacuum Cleaners (HEPA-Filtered)



Vacuuming reduces settled dust and allergens and may help reduce exposure for sensitive individuals.

(According to Consumer Reports and Wirecutter Magazine, the following vacuum cleaners were tested to remove particles, including pet dander, pollen, mold, allergens, and dust. Performance claims are limited to particle reduction under standardized testing conditions. Pricing is approximate and listed as of publication of this guidebook.)

PRODUCT	Filter	Price	Review Source
CANISTER BAGGED			
Miele C3 Marin mieleusa.com	HEPA	$1,100.00	CR: 80
Miele Turbo Team Canister mieleusa.com	HEPA	$499.00	
Kenmore Pop-N-Go Canister kenmorefloorcare.com	HEPA	$299.00	CR: 75
STICK VACUUM			
Shark Power Detect HZ4002 shark.com	HEPA	$229.00	CR: 85

Dehumidifiers

Reducing indoor humidity below 50% limits conditions favorable to mold and dust mites and may reduce humidity-related triggers. (*Performance claims are limited to reduction of moisture under standardized testing conditions. Pricing is approximate and listed as of publication of this guidebook.)*

PRODUCT	PRICE	REVIEW SCORE
Midea MAD35S1QWT midea.com	$255.00	CR: 90
Midea MAD20S1QWT midea.com	$175.00	CR: 90
Honeywell TPFIT25AWK honeywellhome.com	$289.00	CR: 88
TCL TDW20E20 tcl.com	$160.00	CR: 85

Air Quality Monitors

Indoor air quality monitors track important pollutants such as VOCs (benzene and other gases) and formaldehyde. *(Performance claims are limited to monitoring particulate matter and VOCs under standardized testing conditions. Pricing is approximate and listed as of publication of this guidebook.)*

PRODUCTS	PRICE	REVIEW SOURCE
Air Knight 9-in-1 Monitors gasknight.com	$89.00	NR
Qingping Air Monitor 2 qingping.com	$135.00	CR: 79
TemTop M100-US temtopus.com	$99.00	CR: 78

CLEAN & ECO-FRIENDLY HOME MATERIALS

Flooring

Certification claims (e.g., GREENGUARD Gold, MadeSafe®) should be verified by product line.

Furniture Materials

— Solid wood (FSC-certified)
— Organic wool, cotton, and hemp

Furniture Brands

— Medley (better materials) medleyhome.com
— IKEA (wood furniture, not laminated) ikea.com
— Green Cradle (children's furniture) greencradle.com by madesafe.com

Other Helpful Resources

Certifications: Look for GREENGUARD Gold, OEKO-TEX, GOTS (Global Organic Textile Standard), FSC (Forest Stewardship Council), and GOLS (Global Organic Latex Standard).

Materials: Solid wood (FSC® Certified), organic wool, organic cotton, natural latex, hemp.

Adhesives and Finishes: Zero-VOC glues, plant-based oils (linseed), wax finishes, water-based stains.

Governmental Agencies

— EPA (Environmental Protection Agency) epa.gov
— NIH (National Institutes of Health) nih.gov
— CDC (Centers for Disease Control and Prevention) cdc.gov





CHAPTER 2

CLEAN WATER & FOOD



“Water is life, and clean water means health.”

Audrey Hepburn

Establishing healthy habits in both drinking water and food choices is foundational for your well-being. What you eat and drink directly exposes you to all types of toxins. Neglecting these habits can expose individuals to substances that may affect their health over time.

For example, exposure to microplastics from single-use plastic bottles, toxic metals from aging plumbing, or pesticide residues from agricultural runoff is increasingly documented. These exposures have been associated in observational studies with various health outcomes, depending on how much and how long the exposure has been happening and the individual’s susceptibility.

Processed foods, whether purchased in the grocery store or a restaurant, are often packaged in materials that can transfer chemicals into food. What has also changed is not only what people are exposed to, but how universal the exposure is. Today, in nearly every population studied, there exists some level of industrial chemicals, plastics, or pesticides.

These exposures are rarely dramatic. But they are constant.

Clean food and clean water are not about restriction or perfection. They are about awareness. About removing what does not belong so the body can do what it’s designed to do.



What You Drink and Eat Matters

What you drink and what you eat enter the body directly. There are minimal barriers between what you eat and your body's absorption, unless protective choices are intentionally made.

Sadly, modern water sources may contain microplastics, toxic metals, agricultural runoff compounds, and chemical residues—often without taste, odor, or visible warning signs.

Over time, they contribute to what clinicians describe as cumulative exposure. A complete kitchen overhaul is not necessary to make inroads. A handful of small actions account for most of the benefits.



Water Quality

Hydration supports nearly every physiological system, especially when the water itself does not introduce additional stressors.

Filtration matters more than people realize, particularly because water is used repeatedly throughout the day. The effectiveness of filtration depends on local water sources and what is in them. Below are simple drinking water practices you can add to your daily routine to keep your level of exposure down:

Avoid using disposable plastic bottles: Plastics leach chemicals into the water. These bottles are not designed for repeated use, and the plastic may degrade over time.

Always treat or filter tap water: Tap water is a major source of unwanted substances in your water, so always use a filter to remove contaminants.

Clean reusable water bottles regularly: Bacteria can thrive in moist environments, so thorough, frequent cleaning of safe containers is essential.

Use ice made from treated water: If you are unsure about the quality of your tap water, avoid using ice made from it.

Containers & Contact Materials

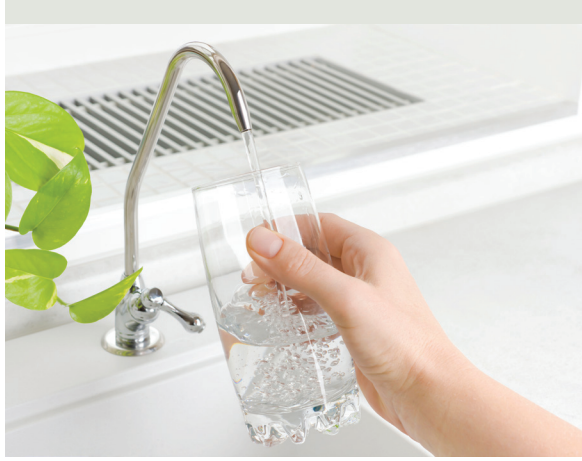


A quick note on filter pitchers: Plastics, particularly when heated or aged, can shed microplastics and leach chemical compounds. Replacing plastic containers with glass or stainless steel reduces exposure without changing eating habits. Even “BPA-free” plastics may contain microplastics and may leach chemicals into the water.



Food Quality Over Perfection

Fresh, whole, minimally processed foods reduce exposure to additives and packaging-related chemicals. Choosing organic foods whenever possible can reduce pesticide exposure. The goal is reduction, not elimination.



Heat Changes Chemistry

Heat accelerates the transfer of chemicals from plastics, coatings, and certain metals into foods. Avoid heating food in plastic containers.

What You Can Do Now

If you want to start simply, focus on:

Drinking filtered water.	Use glass or stainless-steel containers.	Avoid heating food in plastic.
Read ingredients and packaging labels.	Reduce ultra-processed foods.	Buy high-quality fresh food daily, whenever possible.

Households benefit from additional steps due to infrastructure or environmental factors. Public water systems may contain multiple regulated and unregulated contaminants, varying by location.

Reverse osmosis filters tackle more stubborn toxins, though at a higher cost.	Whole-house triple-filtered, or reverse osmosis, water filtration.	Upgrading all your cookware and food storage systems.

These choices are not about fear. They are all about alignment and matching modern habits with what the human body tolerates best.





CLEAN FOOD & WATER: RECOMMENDED PRODUCTS & RESOURCES

Reusable Water Bottles & Containers

Buy durable and toxin-free reusable bottles like those listed below, which are made from stainless steel and designed to support the quality of your water. These brands also help reduce plastic waste while making sure your water stays clean and free of microplastics or harmful chemicals.

Recommended Materials

Stainless steel is an excellent alternative to plastic. It is non-reactive, durable, and does not release harmful substances into food.

Glass is one of the safest and most stable materials for food storage. It does not leach harmful chemicals into food.

Medical-grade silicone for lids, straws, and infant use. Silicone-containing products must be labeled: “phthalate-free” and should not be heated above 300 degrees F.



Container Recommendations

Klean Kanteen is known for its eco-friendly, BPA-free, stainless-steel bottles. Klean Kanteen offers assorted sizes and designs to fit your lifestyle. The bottles are easy to clean and maintain, and they help keep your water at the desired temperature.
kleankanteen.com

YETI offers insulated water bottles that keep drinks cold (or hot) for lengthy periods while ensuring that no chemicals from plastics leach into your water. These bottles are durable, making them perfect for outdoor activities or long-term use.
yeti.com

PURA Stainless is made entirely of stainless steel and medical-grade silicone. Perfect for infants. Silicone-containing products must be labeled “phthalate-free” and should not be heated above 300º F.
purastainless.com

The Soma Glass Bottle is lightweight and durable, holds 0.5L, and features a soft silicone sleeve. The natural bamboo cap is leak-proof and made from a renewable resource.
soma.com

The Hydro Cell Team is committed to using the purest base materials, combined with the highest production standards, to offer you high-quality leak-proof lids and double-walled vacuum insulation technology.
hydrocellusa.com



WATER FILTRATION SYSTEMS

Reverse Osmosis (RO) – Countertop & Under-Sink

Reverse osmosis water filtration involves a multi-stage process, often starting with activated carbon and sediment filters to remove chlorine, VOCs, and larger particles. The core of the process is the semipermeable membrane, which allows only water molecules to pass through, effectively blocking larger contaminants like toxic metals, nitrates, and perchlorate. This makes reverse osmosis the most effective water filtration system capable of removing harmful substances.

Aside from reverse osmosis, other cost-effective methods exist for filtering water at home. Pitcher-style filters are affordable and convenient, while faucet-mounted countertop filters offer easy installation for apartment dwellers. Under-sink filters provide higher volume filtration but may require professional installation. These methods, primarily relying on carbon filtration, can effectively remove common contaminants like chlorine and lead but may not be as comprehensive as reverse osmosis in tackling specific pollutants like arsenic or PFAS. It's crucial to consult your water quality report and choose a filter certification to address your specific needs. Consult the EWG Tap Water Database to find your water report and what contaminants you need to filter out. [ewg.org](ewg.org)

(*Performance claims are limited to reduction of contaminants under standardized testing conditions. Pricing is approximate and listed as of publication of this guidebook.)*



TYPE	NSF Ratings	PRICE	Rating
REVERSE OSMOSIS MODELS			
Kinetico K5 Drinking Water System kinetico.com	42/53	$2200.00	95
Aqua Cleer Reverse Osmosis culliganwater.com	42/53	$1300.00	86
COUNTERTOP MODELS			
Aquasana Clean Water Machine aquasana.com	42/53	$200.00	Mamavation
UNDER SINK MODELS			
Multipure AquaVersa MP750 multipure.com	42/53	$600.00	86
GE Water Filtration System geappliancesparts.com	42/53	$125.00	88
Culligan US-EZ-4 culligandiy.com	42/53	$86.00	85
PITCHER FILTERS			
Brita Denali Brita.com	42/53	$29.00	71
SHOWER FILTERS			
Crystal Quest Shower Filter crystalquest.com	42	$49.95	Mamavation







NSF standards mean:
— 42 – reduction of chlorine and chloramine, as well as unpleasant taste and odor.
— 53 – reduction of lead, mercury, VOCs, cysts.
Mamavation (mamavation.com) is a source for anyone looking for non-toxic product recommendations, health research, organic food, and clean indoor air quality.



Cookware Recommendations

Using safer materials and methods to minimize toxin exposure while cooking at home is important.

Stainless steel cookware is an excellent choice. It is durable and does not leach harmful chemicals into your food, making it a safe and long-lasting option for many types of cooking.

Kirkland Signature 5-Ply Clad Cookware costco.com	All-Clad D5 Brushed Stainless Steel allclad.com	IKEA 365+ Cookware ikea.com	Calphalon Classic Stainless Steel calphalon.com

Nickel Sensitivity Option is used by individuals who have a diagnosed nickel allergy to help them avoid exposure to metal in everyday products, food, or medical devices.
— 430 Stainless Steel (nickel-free)

Cast Iron (Uncoated Only) is an alternative to non-stick cookware. Cast-iron cookware provides a naturally nonstick surface when properly seasoned.
— Lodge Brand lodgecastiron.com

Carbon-steel cookware offers excellent high-heat searing, responsive temperature control, and a naturally nonstick surface when properly seasoned. It is especially well suited for searing proteins.
— IKEA Vardagen Carbon Steel Frying Pan IKEA.com
— Lodge Carbon Steel Skillet lodgecastiron.com

Ceramic-coated cookware or glass dishes are ideal for baking as they do not release harmful chemicals when heated.
— 100% Xtrema Ceramic cookware xtrema.com

Food Storage & Packaging



While the food we eat plays a significant role in our health, how it is prepared and delivered is important. The ingredients, cooking methods, and packaging involved in food preparation can expose us to toxins that pose potential risks.

Avoid When Possible

Styrofoam (Polystyrene)

These takeout containers are made of polystyrene, which can release harmful styrene chemicals, especially when exposed to heat. Styrene has been classified by some regulatory and scientific bodies as a possible or probable carcinogen, largely based on occupational and animal studies. In some studies, styrene has been linked to central nervous system damage, liver issues, and respiratory issues.

Non-Stick Cookware

Earlier non-stick cookware raised concerns due to PFOA, which has since been phased out; modern non-stick coatings no longer contain PFOA, though questions remain regarding PFAS persistence and PFAS's ability to leach into foods at high temperatures. These PFAS have been associated in some studies with hormone disruption, liver issues, and an increased risk of cancer.

Aluminum and Plastic Cooking Materials

Processed and prepared foods may be cooked or packaged in aluminum trays or plastic wrap. When heated, aluminum can leach into food and may possibly contribute to neurodegenerative diseases. Plastics, particularly those containing BPA or phthalates, can leach harmful chemicals into food, disrupting the endocrine system and contributing to reproductive issues.

Microwaveable Plastics

Reheating takeout food in its original plastic container can release harmful chemicals into the food when microwaved. This is particularly dangerous with plastics that contain BPA or other unhealthy additives

Food Guidance

Eating whole, unprocessed foods is one of the best ways to quickly improve your health and reduce exposure to toxins. Unlike processed foods, which often contain artificial additives, preservatives, and chemicals, whole foods are free from harmful substances or contain them in smaller amounts.

The major toxins commonly found in processed foods include:

Artificial Preservatives and Additives

Chemicals like butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT) extend the shelf life of processed foods. These chemicals are linked to hormone disruptions, liver issues, and potential carcinogenic effects. High-Fructose Corn Syrup (HFCS) is associated with increased obesity rates, insulin resistance, and fatty liver disease. Additionally, HFCS may contain traces of mercury.

Trans Fats

Processed foods often contain hydrogenated oils, which are a source of trans fats. These unhealthy fats can increase inflammation, contribute to cardiovascular disease, and impair brain function over time.

Artificial Sweeteners

Artificial sweeteners can disrupt gut health and contribute to metabolic issues.





Even when opting for whole foods, it is important to consider the environmental toxins that can affect produce and meat. Conventionally grown fruits and vegetables are often exposed to pesticides, herbicides, and chemical fertilizers, which can leave toxic residues on our food.

The most concerning chemicals found in produce include:

Pesticides

These chemicals protect crops from pests and are linked to health problems like cancer, hormonal imbalances, and neurological diseases. Pesticides can accumulate in your body over time and increase the risk of chronic disease.

Herbicides

Glyphosate, a common herbicide, is used widely in agriculture to control weeds. It has been labeled as a probable carcinogen and has been shown to disrupt gut bacteria and cause inflammation.





Meat, poultry, and dairy products can also contain harmful toxins if the animals are exposed to contaminated food, water, or environmental pollutants.

To reduce your exposure to these toxins in food, here are practical steps:

Choose Organic

Choose organic fruits, vegetables, and meat whenever possible. Organic farming practices prohibit the use of synthetic pesticides, herbicides, and growth hormones, reducing your exposure to these toxins.

Wash & Peel Produce

Washing fruits and vegetables with cold water can remove many pesticide residues. Peeling also helps reduce exposure, though it may strip away some nutrients.

Buy Local

Local farms often use fewer chemicals, and their produce tends to be fresher.

Grass-Fed & Pasture-Raised Meat

Look for meat labeled “grass-fed” or “100% pasture-raised,” which typically comes from animals raised in more natural environments and fed fewer chemicals or hormones.

Diversify Your Diet

Eating a variety of foods helps prevent overexposure to any single toxin. Rotating the types of produce and meats you consume can lessen the cumulative effects of environmental toxins.



CONSUMER REPORTS: PESTICIDES IN PRODUCE

Consumer Reports analyzed pesticide-residue data for 62 fruits and vegetables, drawing on multiple years of testing data from the U.S. Department of Agriculture. Its findings can help consumers compare produce choices and make more informed decisions when purchasing conventional or organic options.

Because findings and recommendations may change as new data becomes available, visit Consumer Reports to review the latest analysis and complete produce ratings.

ConsumerReports.org/health/food-contaminants/produce-without-pesticides-a5260230325/
Consumer Reports

Consumer Reports is an independent third-party source and is not affiliated with, sponsored by, or endorsing Avoiding Toxins, its authors, or MDLifespan.







Sources & Further Reading

- NIH — Microplastics in Bottled Water: nih.gov/news-events/nih-research-matters/plastic-particles-bottled-water National Institutes of Health (NIH)
- EWG Tap Water Database: ewg.org/tapwater/ Environmental Working Group
- Consumer Reports — Produce Without Pesticides: consumerreports.org/health/food-contaminants/produce-without-pesticides-a5260230325/ Consumer Reports
- NSF — Drinking Water Treatment Standards: nsf.org/consumer-resources/articles/standards-water-treatment-systems nsf.org
- Mamavation — Water Filters: mamavation.com/health/best-home-water-filters-toxic-pfas-forever-chemical-filtration.html mamavation.com
- Mamavation — Cookware: mamavation.com/product-investigations/safest-cookware-stainless-steel-cast-iron-ceramic-bakeware.html mamavation.com



CHAPTER 3

CLEAN HOME



"There is increasing and accelerating evidence that synthetic chemicals commonly found in the home contribute to disease and disability."

Dr. Leonardo Trasande, NYU professor

We often think of exposure as something that happens *outside* the home, such as in traffic, air pollution, or in industry. But for most people, the highest and most consistent exposure happens indoors.

We breathe indoor air for the majority of our lives; touch surfaces, fabrics, and residues daily; and clean, cook, and sleep inside enclosed spaces. Unlike outdoor air, indoor environments trap what is introduced into them. And according to the EPA, indoor air quality is commonly more polluted than outdoor air.

Cleaning products are one of the most frequent and least questioned sources of indoor chemical exposure. For decades, we have been trained to associate cleanliness with scents. Lemon. Pine. Fresh linen. Lavender. The stronger the scent, the "cleaner" it must be.

But most conventional cleaning products do not stay on the surface you wipe down. They evaporate into the air. They bind to dust. They settle into fabrics. They circulate throughout enclosed spaces long after cleaning is finished.

Sprays, wipes, detergents, disinfectants, candles, plug-ins, and laundry products are used repeatedly, often daily. Over time, this repeated contact becomes a meaningful exposure pathway.

Conventional cleaning products may have volatile organic compounds (VOCs), fragrances, solvents, and preservatives, some of which have been associated with respiratory irritation and hormone disruption in certain studies, especially in enclosed spaces.

Creating a toxin-free home is a practical goal for your health and your well-being. Everyday items like cleaning products, air fresheners, laundry detergents, plastics, and synthetic furniture materials contribute to indoor chemical exposure. Making intentional swaps can reduce unnecessary exposures and help create a safer, cleaner home that supports healthier living conditions over time.

Focus on What Matters Most

You do not need to overhaul your home to make meaningful progress. Start small in ways that have the greatest impact.

Moisture & Humidity

Moisture is the foundation of many indoor air problems. Even small leaks, condensation, or consistently high humidity can create conditions where mold and dust mites thrive. Controlling humidity is one of the most impactful steps you can take. Aim for a relative humidity range that reduces mold risk while maintaining comfort, and use dehumidification or ventilation as needed.



Cleaning Products, Fragrance & Repeated Contact

The products used most often create the largest exposure footprint. It is usually not the occasional deep clean that matters most. It is the repeated daily use of sprays, wipes, and fragranced products. Fragrance is one of the most common sources of repeated exposure because it is designed to linger. “Fragrance” on a label often represents a mixture of compounds that are not individually listed.

Disinfectants have a role in specific settings, but daily use throughout the home is often unnecessary.

Start by replacing the items used most often and the products applied to large surface areas:

All-purpose cleaners	**Laundry detergent**
Dish soap	**Hand soap**
Floor cleaner	**Air fresheners**





Additional Tips for Success

- Avoid aerosol formats when possible; they increase inhalation exposure compared with liquids or wipes.
- Choose fragrance-free or low-toxicity cleaning products.
- Choose products with credible third-party certifications: Look for Green Seal, EcoLogo, or EPA Safer Choice labels.
- Wash fabrics regularly and vacuum intentionally.

Ventilation & Airflow

Modern homes are designed to be energy-efficient, which often means they are tightly sealed. Without proper ventilation, contaminants stay trapped indoors. Fresh air exchange plays a meaningful role in reducing indoor chemical buildup.

Everyday Contact Surfaces

Floors, furniture, bedding, and dust act as reservoirs. What is in your air eventually settles and becomes part of your daily contact. Dust is not just dirt. It can contain residues from cleaning products, flame retardants, microplastics, and tracked-in pollutants. Reducing dust accumulation is a practical strategy to reduce exposure.



Things You Can Start Today

If you want to start simply, focus on these:

- Keep indoor humidity in a healthy range.
- Address musty smells rather than masking them.
- Choose fragrance-free or low-toxicity cleaning products.
- Choose certified non-toxic brands: Look for Green Seal, Ecologo, or EPA Safer Choice labels.
- Avoid mixing cleaning chemicals.
- Open windows or increase ventilation while cleaning.
- Wash fabrics regularly and vacuum intentionally.
- Avoid aerosol sprays: Opt for pump or liquid cleaners to minimize airborne toxins.

These steps do not require perfection, just awareness and consistency.

When You're Ready to Take it Further

Homes need deeper support, especially in humid climates or after water exposure.
This may include:

- Dehumidifiers sized appropriately for your space.
- Evaluating ventilation and airflow, ventilating intentionally.
- Reviewing cleaning and laundry products used daily.
- Understanding when mold testing makes sense.
- Be cautious with fragrance, even when it smells "clean."
- Address problems rather than masking them.

These are not drastic moves. They are preventative ones. Minor changes inside the home create meaningful shifts in how the body feels.

CLEAN HOME:
RECOMMENDED PRODUCTS & RESOURCES

(Please review current U.S. regulatory status and current market prevalence; it varies by product and year.)

Natural Cleaning Products

Unlike conventional cleaners, natural products are typically formulated without harsh chemicals and synthetic fragrances, which can release VOCs into the air. These VOCs can contribute to respiratory problems, allergies, and other health issues. By choosing natural alternatives made from plant-based ingredients and oils, you reduce the amount of harmful chemicals released into your indoor environment. The Environmental Working Group's (EWG) Guide to Healthy Cleaning offers a variety of products that are EWG verified, meaning the products meet their strictest standards for health and safety. Visit: **ewg.org/cleaners**

All-Purpose Cleaners

Conventional cleaners often have VOCs, ammonia, and synthetic fragrances. These ingredients can irritate the skin, affect respiratory health, and disrupt hormones. Some ingredients have been associated with irritation or sensitization; hormone-related effects depend on compound, dose, and exposure.

— ATTITUDE All-Purpose Cleaner **attitudeliving.com**
— SUZANNE Eco Cleaner Multi-Surface **suzannesomers.com**
— Back to Basics "Cleaner Than Clean" **backtobasics.shop**
— Branch Basics Cleaning Products **branchbasics.com**





DIY All-Purpose Cleaner

These homemade cleaners are cost-effective, eco-friendly, and free from harmful chemicals, helping to support a healthier indoor environment.

- **1 cup white vinegar**
- **1 cup of water**
- **15 drops of lemon essential oil (optional)**
- **10 drops of tea tree essential oil (optional)**

Use caution with essential oils; they can be irritating for some individuals and pets.

Mix all ingredients in a spray bottle. Shake well before each use. This cleaner is effective for countertops, sinks, and other surfaces.



Glass Cleaners

— Aspen Clean Glass Cleaner aspenclean.com
— Attitude Hypoallergenic Window and Mirror Cleaner attitudeliving.com

DIY Glass & Mirror Cleaner

— 2 cups water
— 1/2 cup white vinegar
— 1/4 cup rubbing alcohol (70%)
— 1-2 drops liquid dish soap

Combine all ingredients in a spray bottle and shake gently to mix. Use a microfiber cloth for streak-free cleaning of glass surfaces and mirrors.

Laundry Detergent

— Attitude Living Laundry attitudeliving.com
— Aspenclean www.aspenclean.com
— Truly Free Laundry Detergent trulyfreehome.com
— ECOS laundry detergent, Ultraconcentrated lavender ecos.com

Ozone Laundry Systems

Ozone laundry is generally considered safe when used with professionally installed and maintained commercial or residential systems that monitor ambient air quality and prevent human exposure to high concentrations of the gas. Ozone gas in the air is a respiratory irritant and should not be inhaled. For consumer-grade, add-on appliances, some studies found that certain models could emit ozone at potentially harmful levels during use, sometimes significantly exceeding outdoor air quality standards. The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) advise against using ozone generators as general air cleaners in occupied spaces due to health risks. Ozone is a respiratory irritant; any discussion should clearly distinguish enclosed laundry-system use versus ozone generators used in occupied rooms.

— O3 PURE Ozone Eco Laundry System
o3pure.com







DISHWASHING & DISHWASHER DETERGENTS

Dishwashing Soaps

Dish soaps often include SLS, triclosan, and artificial dyes. Avoid products advertised as antibacterial and choose fragrance-free options.

— Aspen Clean **aspenclean.com**
— Attitude (includes baby bottle wash) **attitudeliving.com**
— ECOS Dish soap: Free and Clean **ecos.com**
— Lavender Tea Tree Dish Soap **traderjoes.com**
— Dr. Bronner's Sal Suds **drbronner.com**

Hand Soaps

Many hand soaps contain synthetic fragrances and preservatives. Fragrance-free options reduce repeated dermal exposure, especially with frequent handwashing.

— Branch Basics: fragrance-free liquid **branchbasics.com**
— Dr. Bronner's Castile Soap: bar or liquid **kirkssoap.com**

Automatic Dishwasher Detergents

— Blueland dishwasher tablets: fragrance-free **blueland.com**
— Aspen Clean Dishwasher Pods: zero plastic **aspenclean.com**
— Ecos Wave: dishwasher gel **ecos.com**
— Attitude Dishwasher Cubes **attitudeliving.com**





Candles, Plug-ins, and Air Fresheners

These products can add fragranced compounds to indoor air, depending on product type and use. Consider replacing with ventilation or truly unscented alternatives rather than “masking” odors.

DIY Room Freshener Spray

2 tablespoons vodka	10–15 drops lavender or lemon essential oil	6 tablespoons of filtered water.

Place vodka and essential oil in a glass spray bottle and allow it to rest for 10 minutes. Slowly add six tablespoons of water, gently swirl to mix. Recipe can be doubled depending on the size of your bottle.



EVERYDAY HOUSEHOLD SWAPS

Recommendation

— Solid wood cutting boards.
— Stainless steel baking sheets (instead of aluminum)
— Wool dryer balls (instead of dryer sheets)
— Non-toxic parchment paper

Fast Facts to Know

Laundry and dishwasher pods are often wrapped in water-soluble plastic (polyvinyl alcohol, PVA). Emerging research suggests PVA may not fully break down in wastewater treatment systems and can contribute to microplastic pollution.

Choosing powder detergents, liquid detergents, loose-leaf tea, or paper tea bags can significantly reduce this source of exposure.



CERTIFICATIONS & EVALUATION STANDARDS

Preferred Verification

— EPA Safer Choice epa.gov/saferchoice
— Green Seal greenseal.org
— EcoLogo ul.com/services/ecologo-certification
— GREENGUARD / GREENGUARD Gold ul.com/services/ul-greenguard-certification
— MadeSafe Certification madesafe.org





Sources & Further Reading

— Environmental Working Group (EWG): Cleaning Product Verification & Tap Water Database
— U.S. Environmental Protection Agency (EPA): Greener Cleaning Products
— Mamavation: Independent Testing of Household Products
— MadeSafe: Certified Products - Certified products meet specific ingredients and emissions criteria **madesafe.org**

(EWG and Mamavation are consumer advocacy/testing sources, not regulatory bodies. Consumer advocacy platforms are useful comparison tools; health-related claims should be interpreted alongside guidance from regulatory agencies and peer-reviewed research.)





CHAPTER 4

CLEAN BEAUTY



"You shouldn't have to be a toxicologist to shop for personal care products."

Rep. Sharlett Mena (D-Tacoma, WA)

We think of the skin as a barrier, something that keeps the outside world out. It is also an interface, a way to the inside. Skin contains hair follicles, sweat glands, and fat layers designed to absorb, regulate, and distribute what it encounters. Substances applied repeatedly to the skin do not simply sit on the surface; they dissolve into oils and move through the microscopic openings to enter the circulation, depending on the compound, formula, and how often something is applied.

Absorption through the skin is generally lower than if you ate something, but the repeated application over a large surface area can still present an exposure pathway.

Personal care products are used frequently, multiple times a day: soap, shampoo, conditioner, lotion, deodorant, sunscreen, cosmetics and fragrance.

This repetition matters more than any single product.

Personal care products may contain preservatives, solvents, fragrances, and stabilizers. Some of these ingredients have been associated in laboratory or observational studies with skin irritation, allergic reactions, or endocrine disruption under certain conditions.

Creating a "clean beauty approach" is not about avoiding hygiene. It is about reducing the unnecessary chemical load from the products used most often and on the largest surfaces.

The Few Things That Actually Matter

As with other exposure categories, a small number of points account for most of the benefits. Focus on frequency, surface area, and formulation.

Soap, Shampoo, and Daily Wash Products

Products designed to clean the body are typically rinsed off, which limits contact time. However, because they are used frequently over a large surface area, they can contribute to cumulative exposure, particularly in individuals with sensitive skin.

Common ingredients in soaps and shampoos include surfactants, which act as detergents, preservatives, fragrances, and ingredients that increase the penetration of a product.

Moisturizers, Lotions, and Leave-On Products

Leave-on products matter more than rinse-off products. They remain on the skin for hours. They are often applied over large surface areas. They are frequently reapplied.

Lotions, creams, sunscreens, and cosmetics represent the highest-impact category to limit or reduce skin exposure. Ingredients in leave-on products can penetrate the outer layers of skin, with absorption depending on formulation, skin condition, and duration of contact.

This does not mean these products are unsafe. It means selection matters.



Deodorants and Antiperspirants

Deodorants and antiperspirants are applied daily, often to shaved skin, which may increase absorption. Some formulations use aluminum-based compounds designed to reduce sweating. Others rely on antimicrobial agents or fragrances to reduce odor. Individuals with sensitive skin or concerns about irritation may prefer simpler formulations with fewer active ingredients.

Cosmetics and Makeup

Cosmetics are applied directly to the face, lips, and eyes, areas with thinner skin, and may be reapplied several times a day. Choosing daily cosmetics with fewer unnecessary ingredients may reduce exposure without eliminating their use. Make a habit of looking for products that are fragrance-free to reduce irritation. Look for products made without PFAS, sometimes called “forever chemicals.”



Fragrance as a Standalone Exposure

Fragrance deserves special attention. “Fragrance” on an ingredient label can represent a mixture of compounds that are not individually disclosed. Perfumes, colognes, body sprays, and scented lotions are designed to persist on your skin and in the air. Fragrances persist in clothing and furniture. They are inhaled and absorbed simultaneously.

Fragrance compounds have been associated with irritation or sensitization in some individuals, particularly with repeated exposure. Reducing or eliminating standalone fragrance products often produces noticeable improvement for individuals with headaches, asthma, eczema, or chemical sensitivity.

This response varies by individual.



What You Can Do Now

— Use fragrance-free soap, shampoo, and conditioner.
— Choose fragrance-free lotion or moisturizer.
— Limit the number of leave-on products used daily.
— Avoid applying products immediately after shaving when skin is irritated.
— Be cautious with standalone fragrance products.

Going the Extra Mile

Some individuals benefit from more significant changes, especially those with:

— Eczema or chronic skin irritation.
— Asthma or fragrance sensitivity.
— Migraines triggered by scent.
— Infants or young children in the household.

Additional steps may include:

— Simplifying routines to a smaller number of products.
— Reviewing ingredient lists for common irritants.
— Choosing products with third-party certifications.

These steps are optional and should be guided by tolerance and preference, not fear.

CLEAN BODY:
RECOMMENDED PRODUCTS & RESOURCES

Body Wash & Soap

Fragrance-free, low-irritant formulations reduce repeated dermal exposure.
— Babo Botanicals babobotanicals.com
— Goop Bath & Body goop.com



DIY Body Butter

— ¼ cup shea butter
— ¼ cup coconut oil
— 2 tbsp beeswax pellets

Melt all ingredients in a double boiler. Then, allow to cool and slightly harden. Whip on high with a hand mixer until fluffy. Add essential oil if desired. Transfer the mixture into a sterilized jar in your bathroom cabinet. Body butter may harden. If so, simply take a dollop and rub between your hands to soften.



Shampoo & Conditioner

Fragrance-free and dye-free formulations reduce scalp and skin irritation risk.
— Avalon Organics avalonorganics.com
— Attitude attitudeliving.com
— Dr Bronner's Pure Castile products drbronner.com
— Wellnesse wellnesse.com

Moisturizers & Lotions

Simpler formulations with fewer additives may reduce irritation for sensitive skin.
— Goop.com goop.com
— The Spa Dr. thespadr.com
— Living Libations livinglibations.com

Deodorants

Both aluminum-containing and aluminum-free options exist; skin tolerance varies.
— Attitude: stick deodorant, scented and unscented. attitudeliving.com
— Brixy: Magnesium DEO, scented and unscented gobrixy.com
— Wellnesse wellnesse.com

Makeup

— Crunchi crunchi.com 42 of the 46 products tested are EWG rated.
— Honest Beauty honest.com 139 products, 95% are EWG rated.
— Counter counter.com is a great company that used to be known as Beautycounter.
— Formless Beauty formlessbeauty.com has select products that are EWG certified.

(Selected based on EWG Skin Deep® ratings, ingredient transparency, physician review, and alignment with MDLifespan clean beauty standards)

PRODUCT EVALUATION TOOLS

— EWG Skin Deep® Database ewg.org/skindeep
— EWG Healthy Living App ewg.org/consumer-guides/healthy-living-app
— Yuka App yuka.io
— Think Dirty App thinkdirtyapp.com









Certifications & Labels

— EPA Safer Choice
— EWG Verified
— MadeSafe
— NSF/ANSI standards (for specific ingredients)

These programs vary in scope; none represent a guarantee of “non-toxicity.”

Sources & Further Reading

— FDA – Cosmetics & Personal Care Products fda.gov
— NIH – Dermal Exposure & Skin Barrier Function pmc.ncbi.nlm.nih.gov
— Environmental Working Group – Skin Deep Database ewg.org
— Products evaluated based on disclosed ingredients and available data.



CHAPTER 5

CLEAN BABY



"Many of these chemicals are known or suspected to interfere with hormones, brain development, and immune function."

Deborah Bennett, UC Davis professor

Babies are uniquely sensitive to environmental exposure because their protective systems are still developing:

— The liver and kidneys, responsible for detoxification, are immature.
— The immune system is learning what to tolerate and what to defend against.
— The blood–brain barrier is still forming, allowing certain substances to cross more easily than later in life.

At the same time, babies experience proportionally higher exposure because they spend more time indoors and on floors and explore through touch and putting things in their mouths.



The Few Things That Actually Matter

During early development, babies may be exposed to substances during critical windows of development when detox and protective systems are still maturing.

This does not mean harm is inevitable. It means timing matters.

What You Can Do Now

You do not need to eliminate every exposure. Intentional steps can significantly reduce unnecessary load during pregnancy and infancy.

Paints, finishes, and new furniture. May release volatile organic compounds (VOCs) that irritate developing respiratory and nervous systems.

Plastic bottles, toys, and feeding tools. May leach bisphenols or phthalates, especially with heat or wear.

Mattresses, carpets, and foam products. Can have flame retardants and plasticizers that have been associated in studies with hormonal effects, depending on the compound, dose, and exposure context.

Synthetic fabrics and treated clothing. Sometimes contain PFAS or dyes designed for stain resistance rather than skin contact.

Dust on floors and surfaces. Acts as a carrier for pesticides, toxic metals, and household chemical residues.

Practical steps include ventilating well, airing out new furniture and mattresses, choosing fragrance-free products, and being mindful of the materials that babies touch, mouth, and sleep on.

Aim For Consistency, Not Perfection

As babies grow, exposure expands beyond the nursery. Toys and teething items made from soft plastics or heavily scented materials. Mattresses and bedding treated with flame retardants. Clothing and outerwear are treated with stain- or water-resistant chemicals. Food packaging and containers that encounter meals.

None of this requires an all-or-nothing approach. The goal is to reduce repeated, unnecessary exposures in the highest-frequency categories.



CLEAN BABY:
RECOMMENDED PRODUCTS & RESOURCES

Diapers

Choose fragrance-free, chlorine-free, with lower chemical additives. The specific brands listed below are examples, not endorsements.

— The Honest Company **honest.com** (*EWG Verified)*
— Healthy Baby **healthybaby.com** (*EWG Verified)*
— Pura **mypura.com** (*EWG Verified)*

Wipes

Use fragrance-free, chlorine-free, with lower chemical additives. The specific brands listed below are examples, not endorsements.

— The Honest Company **honest.com** (*EWG Verified)*
— Pura **mypura.com** (*EWG Verified)*
— Attitude **attitudeliving.com** (*EWG Verified)*





Bottles, Pacifiers, and Feeding Essentials

Prioritize plastic-free or low-toxicity materials. The specific brands listed below are examples, not endorsements.

— PURA **purastainless.com** Medical Grade silicone nipples w/stainless steel cups, stainless infant and toddler bottles. Stainless serving plates and cups.
— Hevea Rubber Pacifiers **heveaplanet.com**
— Bumpkins Teether Rings (silicone) **bumpkins.com**

Baby Food

87% of baby food tested contains more than one toxic metal. Four out of seven infant rice cereals tested contained inorganic arsenic, the concerning form of arsenic, with levels exceeding the FDA's proposed action level of 100 parts per billion.

The specific brands listed below are examples, not endorsements.

Visit **momsacrossamerica.com** for current information on specific baby food brands and varieties.
— Earth's Best Organic **earthsbest.com**
— Gerber Organic for Baby **gerber.com**



Clothing and Bedding

Choose organic, untreated, low-VOC materials. The specific brands listed below are examples, not endorsements.

— Burt's Bees Baby (Organic Cotton) **burtsbeesbaby.com**
— Hanna Andersson **hannaandersson.com**
— Primary (OEKO-TEX options) **primary.com**
— Under the Nile (GOTS-certified organic) **underthenile.com**
— Quince **quince.com**

Cribs and Mattresses

Brands with claims regarding flame retardants should acknowledge regulatory compliance. The specific brands listed below are examples, not endorsements.

— Naturepedic Organic Mattresses **naturepedic.com**
— Avocado Organic Crib Mattresses **avocadogreenmattress.com**
— My Green Mattress **mygreenmattress.com**
— BabyLetto sheets **babyletto.com**
— Coyuchi sheets **coyuchi.com**

Baby Toys and Baby Teethers

The specific brands listed below are examples, not endorsements.

— Oli & Carol Natural Rubber Toys oliandcarol.com
— PlanToys (Sustainable Wood) plantoys.com
— Grimm's Wooden Toys grimms.eu
— Lovevery (material transparency) lovevery.com

Baby Bath, Baby Lotions, and Baby Care

The specific brands listed below are examples, not endorsements.

— Pipette Baby pipettebaby.com
— Earth Mama Organics earthmamaorganics.com
— ATTITUDE Baby Leaves attitudeliving.com
— Babo Botanicals babobotanicals.com









CHAPTER 6

CLEAN MOLD

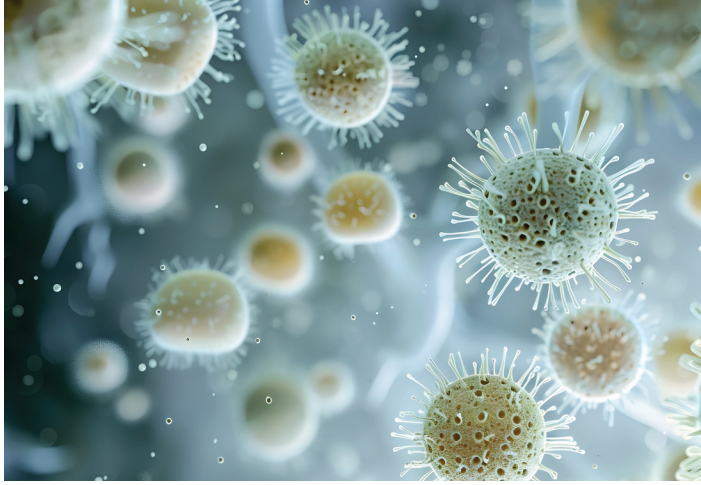


"As a physician and someone who has faced and recovered from toxic mold illness firsthand, I have learned to listen when the body speaks in whispers. Mold toxins, like so many environmental exposures today, do not always show up with flashing lights or textbook symptoms. They can be subtle, insidious, and often misdiagnosed, yet they have the power to disrupt every system in the body."

Dr. Jill Carnahan, MD

Mold is often dismissed as a nuisance in your shower or an allergic trigger. While allergies can be part of the picture, mold illness is not limited to histamine reactions or respiratory symptoms.

Certain molds produce mycotoxins, which are biologically active compounds designed to protect the mold from threats. When humans inhale or ingest these compounds, they can interfere with immune signaling, mitochondrial energy production, neurological function, and hormone regulation.



Why Mold Is Not “Just an Allergy”

Unlike pollen or dust, mycotoxins do not simply irritate. They may alter physiology. Mycotoxins have been associated with:

— An overactive or underactive immune system
— Cognitive changes, including memory, focus, and mood disruption.
— Chronic sinus and respiratory inflammation
— Hormonal and metabolic imbalance
— Increased oxidative stress and impaired cellular repair.
— Severe mitochondrial dysfunction and fatigue

For some individuals, mold exposure acts as a catalyst, a trigger that amplifies existing weak points rather than causing a single reaction.

Biological Amplification: Why Mold Hits Some People Harder

Not everyone responds to mold in the same way. Two people can live in the same home, breathe the same air, and experience completely different outcomes.

This variability reflects biological differences in:

— Detoxification pathways
— Genetic susceptibility
— Underlying infections and inflammation
— Immune response patterns
— Other physical and psychological stressors

For some, mold triggers sinus symptoms or allergy-like reactions.

For others, it drives systemic issues: fatigue, brain fog, sleep disruption, anxiety, and inflammatory patterns that persist even after leaving the environment. These symptom patterns are reported clinically, but they overlap with other conditions and require careful medical evaluation. Mold-related illness is a multi-system, multi-symptom disease and can affect nearly any system in the body negatively. However, it is equally important not to assume that mold is the cause of every symptom and to have a thorough medical evaluation to rule out other causes of illness.

Why Homes and Workplaces Matter



While mold can grow outdoors, due to the dilutional effect of outdoor environments, mold is an indoor problem driven by trapped moisture and poor air circulation or exchange.

Mold growth requires:

Moisture	Organic material (drywall, wood, carpet, dust)	Time

Growth often begins behind walls, under floors, in HVAC systems, or around plumbing, and may never be visible. Visible mold confirms a moisture problem, but the absence of visible mold does not exclude hidden growth.

Workplaces can be significant sources of exposure, particularly in older buildings, schools, healthcare environments, and poorly ventilated offices.

Mold is not about cleanliness. It is about moisture management.

The more important question is not "*Is there mold*?" but "*Is there ongoing moisture*?"



How to Know If Mold Might Be Present

Mold environments are often hidden. Possible indicators include:

— Visible growth
— Musty odors
— Recurring condensation

Additional clues include:

Persistent musty smell	Worsening symptoms at home or work	Improvement when away from the source	Chronic sinus issues or unexplained inflammation

These clues are suggestive, not diagnostic.

Steps You Can Take Today

If you suspect mold, start with foundational steps:

— Reduce humidity
— Ventilate bathrooms and kitchens
— Use dehumidifiers in damp spaces
— Fix leaks promptly
— Avoid unmonitored humidifier use

Aim for indoor relative humidity below 50 percent when feasible.

If visible mold is present, surface cleaning alone is not sufficient. Small surface areas may be addressed with appropriate precautions; larger or recurrent growth typically requires professional remediation.





When You’re Ready to Go Further

If symptoms persist or the environment has known water damage, additional steps may be appropriate:

— Professional inspection by a qualified assessor.
— Moisture mapping or infrared imaging.
— Air or surface sampling used to guide remediation.
— Remediation by trained professionals following containment protocols.
— Avoid fogging, ozone generators, or unverified “mold killing” devices as primary solutions. While these might temporarily improve the environment, if the root cause is not addressed, the issue will return.
— Medical evaluation for persistent symptoms.
— Mold-related symptoms overlap with many conditions and require differential diagnosis.

CLEAN MOLD:
RECOMMENDED PRODUCTS & RESOURCES

Air Filtration & Indoor Control

Air filtration can reduce airborne particles and irritants, but it is not a substitute for remediation when active growth is present. Use HEPA filtration as a supportive measure while addressing moisture and removing contaminated materials. See the Clean Air section.

Cleaning & Environmental Maintenance

Routine cleaning reduces settled spores and mycotoxin-containing dust. One of the most important things you can do for your health is to maintain a relatively dust-free home. See the Clean Air section on vacuum cleaners.

Mold-Safe Cleaning Products

— Benefect Decon 30 **benefect.com**
— Concrobium Mold Control **rustoleum.com**
— EC3 Mold Solution Spray **microbalancehealthproducts.com**

Avoid bleach. It does not neutralize mycotoxins and can worsen respiratory irritation. It is ineffective on porous materials, may irritate airways, and must never be mixed with ammonia or acids.





Bedding, Furniture & Materials

Soft goods can retain spores and fragments. We recommend replacing all bedding, such as pillows and mattresses, if there has been a mold issue in the home.

Mattresses & Bedding

— Naturepedic Organic Mattresses
— Avocado Green Mattress
— Organic cotton or wool bedding only

Furniture Materials

— Solid wood
— Metal frames
— Leather (non-synthetic finishes)
— Avoid particle board, MDF, and foam-heavy items when possible.

Home and Work Testing for Mold

These tools support awareness and decision-making. They do not replace professional inspections. Place monitors in basements, bedrooms, and moisture-prone areas to identify patterns.
— The Dust Test **thedusttest.com** (**Use code: MDLife**)

We Inspect created an at-home screening tool that helps determine whether a home environment is likely contributing to mold-related illness. When paired with toxin testing of the body, The Dust Test can help connect environmental exposures to clinical findings, supporting a more complete and efficient care plan.
— EnviroBiomics ERMI / HERTSMI-2 Dust Test **envirobiomics.com**
— Screening tool to assess mold burden in dust.

Note: Results should be interpreted alongside the building assessment and clinical context.



Home and Work Remediation

These resources can help identify and address mold at its source. Environmental control is always the first step.

We Inspect is a national leader in health-focused mold and indoor environmental inspections, helping patients and families identify environmental exposures that can undermine treatment outcomes. Nationwide service available. **yesweinspect.com**

Professional Guidance

— Indoor Environmental Professionals **iseai.org/iep-list**
  — ISEAI provides a list of qualified inspectors, trained in moisture mapping, building science, and mold assessment, rather than air testing alone.
— Remediation Experts
  — We Inspect: **yesweinspect.com**
  — Brian Karr #moldfinders: **youtube.com/hashtag/moldfinders**

Helpful Organizations

EPA Mold Resources: Practical guidance on mold prevention, cleanup, and moisture control. **epa.gov/mold**

CDC Mold Information: Health effects of mold exposure and environmental risk factors. **cdc.gov/mold**

Medical & Clinical Education

These resources focus on mold as a biological illness, not simply an allergy.

— Dr. Jill Carnahan, MD: Physician education on mold-related illness, immune dysregulation, and recovery strategies. **jillcarnahan.com**

— International Society for Environmentally Acquired Illness (ISEAI): Clinical education and research on environmentally triggered chronic illness. **iseai.org**

— **Neil Nathan, MD** (Author of *Toxic*): Clinical perspective on mold, mycotoxins, and complex chronic illness. **penguin.com**

Certifications to Look For

When buying replacement items:

GREENGUARD Gold	**OEKO-TEX**	**GOTS (organic textiles)**	**FSC-certified wood**





CHAPTER 7

CLEAN MIND



"I will not allow anyone to walk in my mind with their dirty feet."

Mahatma Gandhi

Brain health is often treated separately from environmental exposure. Stress, anxiety, mood, and cognitive clarity are framed as psychological experiences, not part of one's physical environment.

The brain is an organ that is constantly responding to input.

Sleep quality, sensory stimulation, chemical exposure, light, noise, and chronic stress all influence how the nervous system functions. The brain is particularly sensitive to the accumulation of stressors rather than a single exposure.

Our modern environment delivers constant stimulation: notifications, noise, and artificial light. This state of fight or flight may cause the nervous system to work less efficiently and impair recovery—effects commonly dismissed as 'burnout.'

Focus on restorative sleep, reducing sensory overload, and improving recovery time.

A "clean mind" approach does not mean eliminating stress or achieving a state of constant calm. It means actively working to reduce unnecessary mental load and creating conditions that allow the nervous system to relax and recover. It means finding ways to manage the stress because removing it may not be possible.

As with physical exposures, a small number account for most of the benefit. Focus on restorative sleep, reducing sensory overload, and improving recovery time.

Sleep as a Foundational Tool

Sleep is not passive. It is active neurological maintenance.

During sleep, the brain clears metabolic waste, consolidates memories from the day, and regulates emotional processing.

Chronic sleep disruption has been associated with increased risk of mood disorders, impaired cognition, and emotional dysregulation.

Artificial light at night, especially blue-wavelength light from TV/phones/tablets, delays melatonin release and disrupts circadian rhythm. Even low-level light exposure can affect circadian signaling in some individuals.

Reducing nighttime light exposure is one of the most effective interventions for mental clarity and emotional regulation.

Sensory Load and Noise

The nervous system evolved in environments that were predictable. Modern life delivers constant sound, visual stimulation, and non-stop interruptions. Traffic noise, background media, alerts, and environments keep the brain in a semi-alert state.

Chronic noise exposure has been associated with increased stress markers and impaired concentration. Periods of reduced sensory input allow the nervous system to downshift.





Chemical and Environmental Contributors

Indoor air quality, fragrance exposure, and volatile compounds not only affect the lungs. Some airborne compounds have been associated with headaches, dizziness, or cognitive symptoms in sensitive individuals. Repeated low-level exposure combined with poor sleep and chronic stress may amplify symptoms. Effects vary widely between individuals.

Digital Load and Cognitive Saturation

Screens deliver constant novelty. Social media, news cycles, and messaging platforms split our attention. “Multitasking” should no longer be considered a badge of honor; it has now been associated with reduced focus, increased error rates, and mental fatigue.

Cognitive saturation (overload) reduces the brain’s ability to recover between demands. Intentionally limiting exposure matters more than complete avoidance.

Stress, Recovery, and Autonomic Balance

Stress itself is not harmful. The inability to recover is.

The autonomic nervous system requires periods of parasympathetic activation to maintain balance. Chronic stress without adequate recovery has been associated with dysregulation of stress-response systems.

Recovery can be physiological, psychological, or even social. Silence, time in nature, unstructured time, and restorative sleep all support brain health and nervous-system recovery.



What You Can Do Now

— Protect sleep timing and duration.
— Reduce light exposure at night.
— Create quiet periods during the day.
— Limit notifications and background media.
— Schedule time for rest and recovery, not just work.
— Keep all devices (phones, tablets, etc.) out of the bedroom at night and unplug your router when you go to bed to minimize EMF exposure in your bedroom.

Next Steps

Some individuals benefit from deeper changes, particularly those experiencing:
— Chronic anxiety or burnout
— Sleep disruption
— Sensory overload from excessive media input.
— Cognitive fatigue

Additional strategies may include:
— Consistent sleep–wake timing.
— Intentional digital boundaries.
— Sound reduction in living spaces.
— Time outdoors without stimulation.

These strategies are supportive measures and do not replace professional mental health care when needed.

CLEAN MIND:
RECOMMENDED TOOLS & RESOURCES

Sleep Support

Behavioral and environmental interventions are foundational to proper sleep; supplements may play a supportive role for some individuals to achieve better sleep.

Light Management

Dimming lights after sunset.
Early bright light (outdoor if possible) upon rising.
Avoiding screens before bed.
Using warm-spectrum lighting throughout the home.



Noise Reduction

White noise or ear protection when needed.
Reducing background media.

Digital Hygiene

Notification limits.
Scheduled offline time.

Sources & Further Reading

- NIH — Sleep and Circadian Rhythm: nhlbi.nih.gov/health/sleep/sleep-wake-cycle NHLBI, NIH
- CDC — Managing Stress: cdc.gov/mental-health/living-with/ CDC
- Harvard Health — Blue Light and Sleep: health.harvard.edu/healthy-aging-and-longevity/blue-light-has-a-dark-side Harvard Health



CHAPTER 8

CLEAN APPS



"We believe that living healthily shouldn't be so hard."

Environmental Working Group

Apps That Support Cleaner Choices

The apps on the following pages help navigate food, home and other environmental exposures. Apps are not perfect: databases vary, standards differ, and ingredients change. "Clean" is not a regulated term, so use these apps as guides rather than authorities. The goal isn't to outsource decision-making; it's to become a more informed advocate for your own health. That's why personal alignment matters more than scores.

Apps That Support Cleaner Choices

Yuka yuka.io

Scans food and cosmetic products and assigns a health score based on ingredients, nutritional value, and environmental impact.

Think Dirty

thinkdirtyapp.com

Focuses on beauty and personal care products, flagging potentially concerning ingredients and offering safer alternatives.

EWG Healthy Living

ewg.org/consumer-guides

A large database covering food, beauty, and household products, backed by ingredient safety ratings and research.

FlavCity flavcity.com

Designed to help navigate grocery stores with a cleaner-ingredient lens, especially for packaged foods.

Thrive Market

thrivemarket.com/

An online marketplace curating organic, non-toxic, and environmentally conscious products with customizable filters.

Detox Me (Silent Spring Institute)

web.detoxmeapp.org

Provides practical, research-backed tips for reducing chemical exposure across daily routines.

Clearya clearya.com

Uses AI to scan ingredient lists and flag potential endocrine disruptors, carcinogens, and allergens across beauty, cleaning, and household products.

These tools don't eliminate exposure, but they reduce guesswork.



Goop and the Role of Curated Standards

One reason platforms like goop continue to resonate is that they acknowledge something many consumers feel: most people don't want to become a toxicologist just to choose a moisturizer.

Founded by Gwyneth Paltrow, goop's clean beauty standard emphasizes:

Ingredient safety	High performance	Transparency	Ethical and environmentally conscious sourcing

Its approach avoids ingredients linked to hormone disruption or irritation while prioritizing formulations that perform. It reflects a broader shift toward curated trust, not greenwashing language, but process, proof, and accountability.

No single platform has all the answers. But curated standards help consumers navigate an increasingly complex marketplace with more confidence.



What You Can Do Now

- Use apps as guides, not absolutes.
- Reduce screen exposure in the evening.
- Keep phones off the body and out of the bed.
- Protect sleep as a foundational detox tool.

Small shifts matter more than perfect systems.

When You're Ready to Go Further

- Explore recovery-focused technologies thoughtfully.
- Use wearables for insight, not obsession.
- Treat data as information, not judgment.

When technology supports rest, recovery, and clarity, it belongs in the conversation.

When it disrupts sleep, presence, and regulation, it's worth rethinking.

Sometimes the most powerful health choice isn't another app or upgrade — it's turning the phone face down, stepping away, and letting the body do what it already knows how to do.



CLEAN APPS:
RECOMMENDED PRODUCTS & RESOURCES

Product & Ingredient Scanning Apps

Helping reduce toxin exposure through informed choices.

Yuka: Barcode scanner for food and personal care products with ingredient safety scoring. yuka.io	**Environmental Working Group – Healthy Living App**: Ingredient safety ratings for food, beauty, cleaning, and household products. ewg.org/apps
Think Dirty: Evaluates cosmetics and personal care products using a toxicity score. thinkdirtyapp.com	**Clearya**: AI-powered app naming endocrine disruptors, carcinogens, and allergens. clearya.com

Food & Grocery Guidance Apps

FlavCity: Clean-label grocery guidance and education. flavcity.com	**Thrive Market**: Curated organic, non-toxic grocery and household marketplace. thrivemarket.com





Clean Beauty & Lifestyle Standards

goop: Founded by Gwyneth Paltrow; curated clean beauty and lifestyle products emphasizing ingredient safety, performance, and transparency. goop.com

Toxin-Reduction & Educational Apps

Silent Spring Institute – Detox Me App: Research-backed guidance for reducing chemical exposure in daily life. silentspring.org

Wearables & Data (Use Intentionally)

Oura Ring: Sleep, recovery, and readiness tracking. ouraring.com

WHOOP: Strain, recovery, and sleep tracking. whoop.com

Recovery & Supportive Technology

HigherDOSE: Infrared sauna and PEMF wellness tools. higherdose.com	**Kineon**: Joint recovery and circulation support technology. kineon.io
Sunlighten: Full-spectrum infrared saunas. sunlighten.com	**Ballancer Pro**: Advanced compression therapy supporting lymphatic flow and recovery. ballancerpro.com

Digital Wellness & EMF Awareness

Sleep protection and nervous system regulation

SomniLight: Blue-light–reducing sleep aids. somnilight.com	**DefenderShield**: EMF-shielding phone, laptop, and home accessories. defendershield.com

Clean air, water, food, and products reduce daily exposure, but when toxic load accumulates faster than the body can clear it, inflammation may be one pathway linking environmental exposures with adverse health effects.



JUST SAY NO TO TOXINS

Beyond avoidance, MDLifespan's Advanced Serial Therapeutic Plasma Exchange (TPE) represents a physician-led, precision-guided protocol designed to reduce toxin levels and reverse chronic inflammation.

MDLifespan Difference

MDLifespan is a physician-led Public Benefit Corporation and the only organization solely focused on Therapeutic Plasma Exchange (TPE). Unlike clinics that offer TPE as just one of many services, MDLifespan has built its entire model around patent-pending Plasma Exchange Protocols—structured, advanced serial TPE programs designed to address specific disease states, including heart, brain, immunity, and more.

Our protocols are developed and overseen by a nationally recognized advisory board of diverse, board-certified physicians spanning neurology, cardiology, oncology, OB/GYN, toxicology, and personalized medicine—bringing more than 100 years of combined clinical expertise. Backed by research and presented at national medical conferences, our data demonstrate measurable reductions in environmental toxins.

FROM AWARENESS TO ACTION

Throughout this book, we have focused on one of the most important principles of living in a modern world: reduce unnecessary exposure wherever you can.

REDUCING EXPOSURE IS THE FOUNDATION

No medical procedure can replace the importance of reducing continued exposure.

Throughout this book, we have focused on six everyday areas where thoughtful choices can help reduce exposure: **the air you breathe, the water you use, the food you eat, your home, your workplace, and the products you put on your body.**

The goal isn't perfection. **It is awareness followed by reasonable, sustainable choices.**

Small changes add up. Understanding your toxin levels and reducing continued exposure are practical steps everyone can take, regardless of whether additional medical support is ever needed.

KNOW YOUR LEVELS. KNOW YOUR OPTIONS.

Not everyone needs Therapeutic Plasma Exchange. But everyone should have the opportunity to understand their toxin levels and establish a personal benchmark.

Toxin testing can help identify exposure to substances such as plastic-related compounds, PFAS, toxic metals, mycotoxins, pesticides, phthalates, and other environmental chemicals. Your results provide a baseline that you and your physician can use to better understand exposure patterns, identify potential sources, and make informed decisions about what comes next.

We recommend talking with your physician about toxin testing. If you do not have a physician, MDLifespan's Toxin Test & Talk uses an at-home collection kit to test for more than 100 toxins through a certified laboratory. Once your results are available, an MDLifespan physician reviews them with you privately via telehealth and helps place those results in the context of your health history, environment, and goals.

FROM AWARENESS TO ACTION

For many people, the next step may simply be reducing exposure and making targeted lifestyle changes. For others with higher toxin levels, specific concerns, or individual health goals, a physician may recommend exploring additional options.

Testing gives you information. Information gives you choices.

WHEN ADDITIONAL SUPPORT MAY BE APPROPRIATE

For some individuals, toxin testing, health history, biomarkers, and personal goals may lead to a conversation about Advanced Serial Therapeutic Plasma Exchange.

UNDERSTANDING ADVANCED SERIAL TPE

Therapeutic Plasma Exchange, or TPE, is a minimally invasive procedure in which blood is circulated through a specialized system that separates plasma from the blood cells. The removed plasma is replaced with an albumin solution, and the blood cells are returned to the body.

Plasma can carry toxins, inflammatory proteins, harmful antibodies, and other substances. Removing and replacing plasma can reduce levels of certain substances circulating in the bloodstream.

MDLIFESPAN'S PHYSICIAN-LED APPROACH

At MDLifespan, TPE is not approached as a one-size-fits-all procedure.

Our Advanced Serial TPE protocols combine physician-directed plasma exchange sessions with diagnostic testing, medical oversight, personalized nutrient support, toxin-avoidance guidance, and, depending on the individual, additional supportive therapies.

The number and timing of TPE sessions and the components surrounding them are personalized based on each patient's health history, testing, biomarkers, exposures, and goals.

ADVANCED TPE PROTOCOLS

MDLifespan offers physician-led protocols designed around different health priorities:

MDL TPE 1

A single TPE procedure for patients who wish to experience the procedure before committing to a protocol, or when working in coordination with their medical team.

MDL Toxin

Designed for individuals focused on reducing environmental toxin burden, including plastic-related compounds, toxic metals, PFAS, pesticides, and other environmental chemicals.

MDL Brain

Focused on reducing toxin and inflammatory burden while supporting cognitive health and brain resilience.

MDL Heart

Focused on reducing toxin and inflammatory burden while supporting cardiovascular health.

MDL Immunity

Designed to reduce toxin and inflammatory burden while supporting immune resilience and balance.

MDL Mold

Developed for individuals with mold and mycotoxin exposure, combining Advanced TPE with personalized diagnostics and supportive measures.

MDL Baby

A preconception-focused protocol designed to help aspiring parents reduce environmental toxin burden before pregnancy.

MDL Anti-Cancer

Designed to reduce environmental toxin burden and support overall wellness for individuals concerned about cancer risk or navigating a cancer journey, in coordination with their medical team.

MDL Longevity

Focused on reducing toxin burden and inflammation while supporting vitality, resilience, and biomarkers associated with healthy aging.

FROM AWARENESS TO ACTION

The MDLifespan Difference

MDLifespan is a physician-led Public Benefit Corporation focused on environmental toxin reduction and Advanced Serial Therapeutic Plasma Exchange. As a Public Benefit Corporation, MDLifespan prioritizes lower pricing for patients over maximizing profitability.

Rather than offering TPE as one service among many, MDLifespan has built its clinical model around patent-pending Advanced Serial TPE protocols, personalized diagnostics, physician oversight, and measurable data.

The MDLifespan medical and advisory team brings expertise across multiple specialties, including neurology, cardiology, obstetrics and gynecology, oncology, toxicology, and personalized medicine.

Our approach includes:

- **Before-and-after testing when appropriate** to help measure change
- **Customized protocols** rather than a one-size-fits-all approach
- **Personalized nutrient and supportive therapies** based on the protocol
- **Toxin-avoidance guidance** to help reduce continued exposure
- **Highly trained physicians and registered nurses** experienced in TPE
- **A growing network of MDLifespan locations** nationwide

The goal isn't simply to perform a procedure. **It is to understand the individual, establish measurable information, and build an appropriate plan around each person.**

WHAT TO EXPECT

1. Complimentary 1:1 Provider Call

Ready to start the conversation? Schedule your complimentary 1:1 provider call at MDLifespan.com/sign-up-call/.

You will have an opportunity to discuss your health history and learn about our services and pricing.

Because patient safety is one of our highest priorities, we evaluate every patient to determine whether TPE can be performed safely in an outpatient office setting.

2. Telehealth Evaluation

If you decide to move forward, an MDLifespan physician conducts a more comprehensive telehealth evaluation, also at no charge.

Your medical history, current health, medications, previous testing, environmental exposures, and personal goals are reviewed. Depending on your situation, additional laboratory or toxin testing may be recommended. You are welcome to invite family members and your physician to join the telehealth visit.

Working with you, our physician then determines which Advanced TPE protocol best aligns with your individual needs.

3. Next Steps

Our experienced team will help you review financing options, coordinate laboratory testing completed at home and at a nearby Labcorp Patient Service Center, and schedule your first TPE procedure at an MDLifespan location.

4. In-Person Advanced TPE

Your TPE sessions take place in person at an MDLifespan location.

During TPE, blood is drawn through an IV, plasma is separated from the blood cells, the removed plasma is replaced with albumin, and the blood cells are returned to the body.

The procedure is performed under experienced medical supervision with ongoing monitoring. When clinically appropriate, you may receive IV nutrients or other IV medications at that time.

The nurse will review your protocol, supplements, and other supportive therapies with you during your visit.

5. Measure. Learn. Keep Reducing Exposure.

When appropriate, a follow-up visit with an MDLifespan medical provider allows you to compare your progress and follow-up laboratory results with your original baseline.

The long-term goal remains the same principle you have seen throughout this book:

Know what you can. Reduce what you can. Make informed choices about what comes next.

CHOOSE YOUR NEXT STEP

You do not need to decide today whether Advanced TPE is right for you.

Know Your Numbers

Start with toxin testing and establish your baseline.

MDLifespan.com/toxin-test-talk/

Talk With a Provider

Schedule a complimentary 1:1 provider call, with or without toxin testing, to discuss your health, exposures, and whether testing or an Advanced TPE protocol may be appropriate.

MDLifespan.com/sign-up-call/

SCHEDULE YOUR COMPLIMENTARY 1:1 PROVIDER CALL

A no-obligation virtual conversation with an MDLifespan provider to discuss your health history, goals, available services and pricing, and whether testing or Advanced TPE may be appropriate.

SCAN THE QR CODE OR VISIT:
MDLifespan.com/sign-up-call/

SCHEDULE A PROVIDER CALL

This information is provided for educational purposes only and is not intended to diagnose, treat, cure, or prevent any disease. Individual results and recommendations vary. Advanced TPE and other medical services should only be considered following evaluation by a qualified healthcare professional.

REVIEWS

"This book is for all the warriors out there—those navigating mold illness, chronic illness, toxic overload, allergies, autoimmune issues, or anyone simply committed to cleaner, non-toxic living. *Avoiding Toxins* makes an overwhelming topic approachable and gives you practical steps to take greater control of your health."

— Jenny McCarthy
American Actress, Wellness Advocate, Bestselling Author, and Champion of Environmental Detoxification

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"You can invest heavily in improving your health, but if you continue to be exposed to toxins in the environments where you live every day, you are working against those efforts. *Avoiding Toxins* helps people understand where those exposures can come from and, more importantly, gives them practical steps to start reducing them."

— Corey Levy
Co-Founder, We Inspect & The Dust Test

"My health journey taught me that what surrounds us matters. This book helps you understand where to start."

— Mia Michaels
Emmy Award–Winning Choreographer & Creative Director

"Mold and environmental toxins are often overlooked pieces of the health puzzle. *Avoiding Toxins* helps readers understand where exposures may be hiding and offers practical, realistic ways to create a cleaner, healthier environment."

— Jill Carnahan, MD
Functional Medicine Physician, MDLifespan Medical Advisor and Functional Medicine Physician



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ABOUT THE AUTHOR



Paul Savage, MD
Author

Paul Savage, MD, is the founder and CEO of MDLifespan, a physician-led medical practice specializing in Advanced Serial Therapeutic Plasma Exchange (TPE) and personalized protocols designed to help reduce environmental toxin burden. He developed MDLifespan's patent-pending Advanced Serial TPE protocols, which integrate therapeutic plasma exchange with comprehensive testing, targeted nutrient support, patient education, and individualized toxin-avoidance strategies.

For more than two decades, Dr. Savage has worked at the intersection of conventional and personalized medicine. His early work focused on advancing individualized hormone care. Today, his work centers on environmental toxin exposure, inflammatory biomarkers, and proactive approaches that help people better understand the factors influencing their health.

His mission is also deeply personal. After confronting his own health challenges during his career as an emergency and trauma physician, Dr. Savage expanded his focus beyond acute care and began exploring more proactive, personalized approaches to health. That experience ultimately inspired him to create MDLifespan and advance research, education, and practical solutions that empower people to make more informed decisions about their health.

ABOUT MDLIFESPAN

As a Public Benefit Corporation (PBC), MDLifespan joins the ranks of companies such as Ben & Jerry's, Patagonia, and Kickstarter, which are committed to the greater good. MDLifespan aims to deliver both financial value and measurable public benefits. This means that beyond achieving business success, MDLifespan prioritizes solutions that eliminate environmental toxins, reduce disease, improve quality of life, and raise awareness about the threat that toxins pose to our survival.

Your health starts with your data. MDLifespan offers a Toxin Test & Talk that identifies hidden toxins and inflammation so you can make informed decisions. Because you don't know what you don't measure. To learn more about total toxin testing, visit MDLifespan.com/toxin-test-talk/.

THE TEAM BEHIND AVOIDING TOXINS



Lisa Buyer

Contributing Author and Editorial Director

Lisa Buyer is an author, journalist, editor, and digital wellness advocate with more than two decades of experience translating health and wellness topics into practical, accessible information. She is the author of *Digital Detox Secrets* and has written and contributed to health, wellness, hormone, and lifestyle content since 2004.

Lisa has collaborated with Dr. Paul Savage for more than 20 years on books, educational initiatives, and health communications, including work connected to Suzanne Somers' *Ageless: The Naked Truth About Hormones*. Lisa serves as Creative Director and advisor to MDLifespan, where she helps translate emerging research into accessible education about environmental toxins and proactive health.

A certified yoga instructor, Lisa brings a practical lifestyle perspective to Avoiding Toxins, helping readers turn complex information about everyday exposures into realistic choices for cleaner, healthier living.

THE TEAM BEHIND AVOIDING TOXINS

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Lyn Patrick, ND

MDLIFESPAN

OUR MISSION

To help people understand and reduce environmental toxin burden through education, testing, physician-led care and innovative approaches.

READY TO TAKE THE NEXT STEP?

Schedule Your Complimentary 1:1 Provider Call

A no-obligation virtual conversation with an MDLifespan provider to discuss your health goals, learn about available services and pricing, and explore what next step may be appropriate.

SCAN THE QR CODE OR VISIT:
MDLifespan.com/sign-up-call/

SCHEDULE A PROVIDER CALL

"Avoiding Toxins makes an overwhelming topic approachable and gives you practical steps to take greater control of your health."

— Jenny McCarthy

American Actress, Wellness Advocate & Bestselling Author

Modern life surrounds us with chemicals in places we may not expect—from the air we breathe and the water we drink to our food, homes, workplaces, and personal-care products.

Avoiding every exposure isn't realistic. Making informed, practical choices is.

In Avoiding Toxins, Dr. Paul Savage and Lisa Buyer transform an overwhelming subject into a clear, approachable guide for reducing unnecessary exposure—without fear, guilt, or the pressure to be perfect.

INSIDE, YOU'LL LEARN HOW TO:

- Recognize potential sources of exposure in your everyday environment
- Make more informed choices about air, water, food, household products, and personal care
- Prioritize reasonable changes you can maintain
- Understand when testing or a conversation with a physician may be helpful

The goal isn't to live in a bubble. It's to know what you can, reduce what you can, and make informed choices about what comes next.

Small changes add up—and greater awareness is where meaningful action begins.

BARCODE / ISBN