12 HORMONE & MITOCHONDRIAL DISRUPTING CHEMICALS

What are endocrine disruptors? Chemicals that interfere with your hormone system — they can increase or decrease hormone production, imitate hormones, block hormone signals, turn one hormone into another, cause premature cell death, or bind to hormones so they stop working. An overload of these toxins taxes the liver and can cause nausea, headaches, itchy skin, joint pain, weight gain, mood changes, and much more.

Quick actions you can take today: Check personal care product labels · Avoid heating food in plastic · Switch to natural cleaning supplies · Remove synthetic air fresheners · Choose safe laundry products · Avoid artificial food colorings

Learn more: EWG.org (Environmental Working Group) · Books: Slow Death by Rubber Duck, Fatal Conveniences, Ultra Processed People

THE 12 WORST HORMONE DISRUPTORS

1. BPA

WHERE IT HIDES
Plastic food containers, canned food liners, receipt paper, some water bottles (recycling #7 / "PC" labeled)

WHAT IT DOES TO YOUR BODY
Mimics estrogen in your body — tricks your body into thinking it has extra estrogen. Linked to breast cancer, reproductive problems, early puberty, obesity, heart disease, PMS, acne, and hormonal disruption. 93% of Americans have BPA in their bodies.

HOW TO AVOID IT
Choose fresh or frozen over canned food. Avoid plastics labeled #7 or "PC." Decline paper receipts. Use glass, stainless steel, or ceramic containers. More info: ewg.org/bpa

2. Dioxins

WHERE IT HIDES
Meat, fish, milk, eggs, butter — builds up in animal fat through industrial contamination of the food supply

WHAT IT DOES TO YOUR BODY
Disrupts both male and female sex hormone signaling. Linked to reduced sperm quality and count, immune disruption, reproductive problems, and are powerful carcinogens. Dioxins build up in your body over time and are very long-lived.

HOW TO AVOID IT
Reduce animal product consumption or choose organic, pasture-raised sources. Dioxins concentrate in fat, so choosing lean cuts and low-fat dairy can lower exposure.

3. Atrazine

WHERE IT HIDES
Tap water (common contaminant from agricultural runoff), conventionally grown corn and corn products

WHAT IT DOES TO YOUR BODY
Even low-level exposure can disrupt sex hormones. Linked to breast tumors, delayed puberty, prostate inflammation, and prostate cancer. In animal studies, it caused male frogs to change sex and produce viable eggs.

HOW TO AVOID IT
Buy organic produce — especially corn products. Install a water filter certified to remove atrazine. Check ewg.org/report/ewgs-water-filter-buying-guide for filter recommendations.

4. Phthalates

WHERE IT HIDES
Plastic food containers, plastic wrap (#3 / PVC), children's toys, personal care products listed as "fragrance"

WHAT IT DOES TO YOUR BODY
Trigger premature cell death in testicular cells. Linked to hormonal changes, lower and less mobile sperm, birth defects in male reproductive system, obesity, diabetes, mood changes, and thyroid irregularities.

HOW TO AVOID IT
Avoid plastic food containers and PVC wrap (#3). Read personal care labels — skip anything with "fragrance" as a catch-all ingredient. Find phthalate-free products at ewg.org/skindeep

5. Perchlorate

WHERE IT HIDES
Drinking water, produce, milk — a component of rocket fuel that has contaminated much of the U.S. food and water supply

WHAT IT DOES TO YOUR BODY
Competes with iodine — the mineral your thyroid needs to make hormones. Too much perchlorate throws off your thyroid hormone balance, disrupting metabolism in adults and brain/organ development in infants and children.

HOW TO AVOID IT
Install a reverse osmosis water filter. Make sure you get enough iodine in your diet (iodized salt is one source). This helps counteract perchlorate's effects on thyroid function.

6. Fire Retardants (PBDEs)

WHERE IT HIDES
Foam furniture, carpet padding, electronics — these chemicals build up in house dust and are found in human breast milk and wildlife worldwide

WHAT IT DOES TO YOUR BODY
Imitate thyroid hormones and disrupt their activity. Linked to lower IQ and significant developmental effects in children. Even though some PBDEs have been phased out, they persist in the environment for decades.

HOW TO AVOID IT
Use a HEPA vacuum to reduce toxic house dust. Avoid reupholstering old foam furniture. Use caution when replacing old carpet — the padding underneath may contain PBDEs. More at ewg.org/pbdefree

7. Lead

WHERE IT HIDES
Old paint (pre-1978 homes), contaminated drinking water, some imported ceramics and toys

WHAT IT DOES TO YOUR BODY
Damages nearly every organ system. Linked to brain damage, lowered IQ, hearing loss, miscarriage, high blood pressure, and kidney damage. Also disrupts sex hormones and the body's stress hormone system (HPA axis) — making it harder to handle stress.

HOW TO AVOID IT
Maintain and repair old paint carefully — crumbling paint is a major source. Filter your drinking water. Eating a healthy, nutrient-rich diet helps children absorb less lead. Check ewg.org for filter guidance.

8. Arsenic

WHERE IT HIDES
Drinking water, rice, rice-based products, some fruit juices — present in soil and water from natural deposits and industrial contamination

WHAT IT DOES TO YOUR BODY
Interferes with the glucocorticoid hormone system that regulates how your body processes sugars and carbohydrates. Linked to weight changes, insulin resistance, immune suppression, osteoporosis, high blood pressure, and skin, bladder and lung cancer.

HOW TO AVOID IT
Use a water filter that removes arsenic. Vary your grain consumption — don't rely heavily on rice. Check ewg.org/report/ewgs-water-filter-buying-guide for certified filter options.

9. Mercury

WHERE IT HIDES
Large predatory fish: tuna, swordfish, king mackerel, tilefish — mercury enters waterways through coal burning and concentrates up the food chain

WHAT IT DOES TO YOUR BODY
Binds directly to hormones involved in women's menstrual cycle and ovulation — hormones don't work properly when mercury is attached to them. Concentrates in the fetal brain. May damage insulin-producing cells in the pancreas, contributing to diabetes risk.

HOW TO AVOID IT
Choose low-mercury seafood: wild salmon and farmed trout are excellent options with healthy fats and minimal mercury. Pregnant women should be especially cautious with seafood choices.

10. PFCs (Non-Stick Chemicals)

WHERE IT HIDES
Non-stick cookware (Teflon), stain-resistant clothing, water-resistant furniture and carpet coatings, microwave popcorn bags

WHAT IT DOES TO YOUR BODY
Linked to decreased sperm quality, low birth weight, kidney disease, thyroid disease, and high cholesterol. PFOA, one notorious compound, never breaks down in the environment — it will be in our bodies for generations. 99% of Americans have PFCs in their bodies.

HOW TO AVOID IT
Replace non-stick pans with cast iron, stainless steel, or ceramic. Avoid stain-resistant and water-resistant coatings on clothing, furniture, and carpets. Choose uncoated cookware whenever possible.

11. Organophosphate Pesticides

WHERE IT HIDES
Conventionally grown produce — especially the "Dirty Dozen" fruits and vegetables with highest pesticide residues

WHAT IT DOES TO YOUR BODY
Originally developed as nerve agents during WWII. Interfere with testosterone signaling in cells, lower testosterone levels, and alter thyroid hormone levels. Linked to effects on brain development, behavior, and fertility.

HOW TO AVOID IT
Buy organic produce — especially for the Dirty Dozen (strawberries, spinach, kale, peaches, pears, apples, grapes, etc.). Check EWG's annual Shopper's Guide at ewg.org/foodnews for the full list.

12. Glycol Ethers

WHERE IT HIDES
Paints, cleaning products, brake fluid, cosmetics, and some personal care items — found in many common household products

WHAT IT DOES TO YOUR BODY
Linked to blood abnormalities, lower sperm counts, and fertility damage. Children exposed to glycol ethers from bedroom paint had significantly higher rates of asthma and allergies. The EU classifies some as potentially damaging to fertility and unborn children.

HOW TO AVOID IT
Check EWG's Healthy Cleaning Guide at ewg.org/guides/cleaners. Avoid products containing 2-butoxyethanol (EGBE) or methoxydiglycol (DEGME). Choose natural, plant-based cleaning products.

YOUR PERSONAL ACTION CHECKLIST — REDUCING EXPOSURE

How to use this checklist: You don't have to do everything at once. Start with the easiest swaps and work your way through. Each change you make reduces your total toxic burden and gives your hormones a better environment to work in. Every swap counts.

Kitchen & Food

☐ Replace plastic food containers with glass, stainless steel, or ceramic
☐ Never heat food in plastic — use glass or ceramic in the microwave
☐ Stop buying canned foods lined with BPA — choose fresh, frozen, or BPA-free brands
☐ Decline paper receipts at the store (or use gloves)
☐ Swap non-stick pans for cast iron, stainless steel, or ceramic cookware
☐ Stop buying conventional corn products — choose organic
☐ Reduce large predatory fish: swap tuna and swordfish for wild salmon or farmed trout
☐ Limit rice intake or vary grains to reduce arsenic exposure
☐ Add iodized salt to your diet to counteract perchlorate's thyroid effects
☐ Eat more organic produce — especially the Dirty Dozen
☐ Reduce conventional animal products (meat, butter, eggs) to lower dioxin and PFC exposure

Water & Filters

☐ Install a water filter certified to remove atrazine, arsenic, lead, and perchlorate
☐ Choose reverse osmosis (RO) filtration for the most comprehensive removal
☐ Stop drinking from plastic water bottles — use stainless steel or glass
☐ If you have a pre-1978 home, test your water for lead
☐ Research your local tap water at EWG.org's tap water database

Home & Cleaning

☐ Switch all household cleaners to natural, plant-based products
☐ Check ingredients on cleaners — avoid 2-butoxyethanol (EGBE) and methoxydiglycol (DEGME)
☐ Remove or seal old paint carefully — don't let it crumble or create dust
☐ Vacuum with a HEPA filter to reduce toxic house dust (fire retardants)
☐ Avoid reupholstering old foam furniture — it likely contains PBDEs
☐ Use caution when replacing old carpet — the padding may contain fire retardants
☐ Remove air fresheners and plug-ins — replace with pure essential oil diffusers

Personal Care Products

☐ Check all personal care products at EWG Skin Deep Database: ewg.org/skindeep
☐ Avoid products that list "fragrance" as an ingredient — it can hide phthalates
☐ Switch to phthalate-free shampoo, conditioner, lotion, and deodorant
☐ Avoid plastics labeled #3 (PVC) or #7 (polycarbonate) — they may contain phthalates or BPA
☐ Choose makeup and cosmetics free from parabens, phthalates, and synthetic fragrance
☐ Use natural deodorant — conventional antiperspirants may contain hormone-disrupting compounds

Laundry & Fabrics

☐ Switch to a fragrance-free, plant-based laundry detergent
☐ Replace dryer sheets with wool dryer balls (no synthetic fragrance)
☐ Avoid stain-resistant or water-resistant clothing and furniture coatings (PFCs)
☐ Wash new clothes before wearing — they often contain chemical coatings

Lifestyle & Environment

☐ Eat more organic fruits and vegetables — especially the Dirty Dozen
☐ Reduce processed and packaged foods — additives disrupt the microbiome
☐ Avoid artificial food colorings and preservatives
☐ Keep your home well ventilated — open windows regularly
☐ Take off shoes at the door — reduces pesticide and chemical tracking
☐ Buy organic bedding if possible — conventional cotton is heavily sprayed

Resources

EWG.org — Comprehensive guides on safer products, water filters, and produce
ewg.org/skindeep — Personal care product safety database
ewg.org/foodnews — Annual Dirty Dozen & Clean Fifteen produce lists
ewg.org/guides/cleaners — Healthy cleaning product guide
ewg.org/bpa — BPA avoidance guide

Books worth reading: Slow Death by Rubber Duck · Fatal Conveniences · Ultra Processed People

Small swaps. Big impact. Your hormones are constantly communicating with every cell in your body. Reducing your toxic burden gives that system a cleaner environment to work in — and your body the best possible chance to heal, balance, and thrive.