

Xenoestrogens and Your Health

For many years scientists have been studying the impact that environmental chemicals and toxins have on reproductive health. Many chemicals currently in use throughout the world have potent effects on reproductive health, in addition to long term toxic and cancer promoting effects. Humans are never exposed to only one chemical; in contrast, every time we come into contact with toxins and chemicals they are absorbed into our bodies and are never fully eliminated. Sadly safety analysis conducted on these chemicals are typically done on one single chemical at a time and do not investigate the cumulative impact numerous chemicals have in our bodies over many years. Chemicals found in our workplace, foods vehicles and homes can have a cumulative impact on reproductive health in both men and women.

Another result of our industrialized society is the over abundance of toxic chemicals being used in daily use in our food and environment. The August 1990 edition of the Alive Magazine states that in the last 30 years food additives have increased 1000%. New chemicals, preservatives and toxic substances are being produced in attempt to further benefit our instant society. Our attempt to over control nature has created pesticides and herbicides, the desire to have perfect looking (non bug bitten, and not wilting produce) longer lasting food and byproducts from the plastic industry...Xenoestrogens.

Xenoestrogens. Xeno literally means **foreign**, so xenoestrogens refers to 'foreign estrogens,' concentrated endocrine disrupting chemicals, which are found in our food, soil and air. Xenoestrogens are capable of mimicking our body's estrogen hormone, attaching to estrogen receptors in our bodies. These estrogen mimickers interfere with our bodies' natural circulating estrogens; disrupt hormone balance and menstrual cycles, affect prostate health, contribute to problems with fibroids, endometriosis, uterine cysts, and polycystic ovary syndrome and can damage ova and sperm. Many Xenoestrogens activate the CYP-1B1 enzyme, which convert our bodies naturally occurring estrogens to 4 catechols, a toxic estrogen that can damage the bodies DNA and increase the risk of developing cancer, including breast cancer.

Dioxins, PCB's (polychlorinated biphenyls), and DDT (dichlorodophenyltrichloroethane), all chlorinated products, chemicals present in pesticides, fertilizers, plastics, electrical equipment, waste incineration, bleach and cleaning solutions are all known xenoestrogens. These products are not biodegradable and remain in our environment for long periods of time, over time moving their way up the food chain; eventually many are consumed by larger animals and humans. Animals have been suffering reproductive problems for years, and problems are the worst in areas where pollution is the highest.

Individuals in certain occupations are more likely to come into contact with and absorb heavy metals and toxins: carpenters, auto mechanics, photographers, staff in the clothing and textile industry, workers involved in manufacturing synthetic hormones, laboratory technicians, commercial fisherman, painters, furniture workers, dentists, farmers administering hormones to livestock, electrical workers, potters and radiologists may be more at risk than individuals in other occupations. As much as possible minimize your contact with environmental chemicals.

Common chemicals linked to sperm abnormalities and low sperm count, irregular menstrual cycles, abnormal ovulation, decreased size of ovaries and increased risk of miscarriage include:

- Organophosphates: frequently found in our environment.
- Aluminum and formaldehydes
- Benzene: a petroleum byproduct, found in rubber, lubricants, detergents, pesticides,

plastics, nylon, synthetic fibers, resins, car exhaust, and dyes. High levels of Benzene have been found in the air surrounding gas stations and hazardous waste stations.

- Synthetic estrogen: found in birth control and fertility medication
- Chlorine found in chemically treated water in pools, showers, drinking water and hot tubs.
- Lead: found in lead based paints, leaded gasoline, hair colors, tap water and batteries
- Mercury: found in batteries, dental amalgam fillings and fish such as northern pike, trout and walleye can be suspect for high levels of mercury.
- Nitrous oxide gas, a common anesthetic frequently used in surgery and dentistry.
- Xylene, a petroleum by product, commonly used as a solvent in printing, rubber, paints and paint thinners and varnishes.
- Pesticides: have been a health concern for decades; present in the air, our food and water supply, pesticides have been implicated in reproductive damage and fetal damage in both animals and humans.
- Nonylphenols: found in the breakdown of surfactants in dishwashing detergent and spermicides in condoms, diaphragm jellies and vaginal gels.
- Organochlorines, a family of organic chemicals which have chlorine atoms within their molecular structure, used throughout the world as insecticides, such as DDT and industrial chemicals like PCB's and found in PVC and spermicidal contraceptives and lubricants. Organochlorines do not break down once they are released into the environment and eventually make their way up the food chain to be found in both human and animal fats; they are extremely toxic and potentially carcinogenic. Organochlorines are also estrogen mimickers, attaching to estrogen receptors in the body; they are implicated in endometriosis, estrogen dependent health disorders, lowered sperm counts, ovarian failure and affect the function of the liver. Liver damage can also increase estrogen levels by inhibiting excess hormones from being eliminated from the body.

Ways to decrease the impact of environmental estrogens, xenoestrogens, on your health:

- Whenever possible store leftovers in glass or ceramic containers instead of plastic. Avoid the use of the microwave to reheat food and especially do not microwave foods after being stored in Tupperware or covered with saran wrap, instead reheat in a pot on the stove.
- Choose biodegradable cleaning and laundry detergents or pick up a book on making your own non-toxic cleaning products at home. Do not use products containing chlorine bleach in cleaning.
- Avoid the use of fabric softeners, which place petrochemicals directly in contact with the skin.
- Buy hormone free/ non-medicated meats or wild game (which is not treated with chemicals or antibiotics). Do not eat farmed fish.
- Purchase "organic" locally grown produce, free from pesticides, herbicides, chemical sprays or synthetic fertilizers or soak produce in a biodegradable vegetable wash for 10-15 minutes before consuming which may remove small amounts of chemicals from the produce.
- Educate yourself about forms of natural pest control; remove all pesticides, herbicides, fungicides from your home, including insect repellants and weed killers for the lawn.
- Select unbleached recycled paper to use at the office or in your home.
- Purchase unbleached tampons and menstrual pads made with organic cotton and ensure they are free from surfactants, rayon and fragrance. (The FDA detected dioxins and dozens of other substances in conventional tampons.
- Use essential oils and citronella lamps as insect repellants instead of toxic pesticides.
- Avoid condoms that contain the spermicide nonoxyl-9 that breaks down into

- nonylphenol, a xenoestrogen.
- Avoid drinking tap water containing chlorine and other chemicals. Instead drink reverse osmosis bottled water. Consider investing in a filter for the shower to remove the chlorine, which is readily absorbed through the skin.
- Don't let your child chew on plastic toys.
- Choose non-bleached paper products including: coffee filters, paper, napkins and toilet tissue. The EPA has determined that using bleached coffee filters alone can result in a lifetime exposure to dioxins that exceed acceptable risks. [Link to article.](#)

Recommended Reading:

- Our Stolen Future by Theo Colborn
- The Silent Spring
- Generations at Risk: Reproductive Health and the Environment by Tedd Schettler and Gina Solomon
- Hormonal Chaos: The Scientific and Social Origins of the Environmental Endocrine Hypothesis by Sheldon Krimsky
- Pandora's Poison by Joe Thornton
- Living Downstream by Sandra Steingraber

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