

Toxic Chemicals and Reproductive Health

IDENTIFYING THE CONNECTIONS

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OVER THE PAST FEW DECADES, THE

reproductive health of Americans appears to have declined. Diseases, disorders and conditions that affect the development and functioning of the male and female reproductive systems—including fertility problems, miscarriages, pre-term births, low birthweights and certain birth defects—have risen.¹⁻⁸ In addition, incidence rates of testicular

cancer have increased, and breast and prostate cancers remain among the most common forms of cancer in the U.S.⁹⁻¹² The exact role of environmental chemical exposures in reproductive health remains unclear, and a variety of factors likely contribute to these increases. A growing body of scientific evidence, however, has linked exposure to some toxic chemicals to a range of reproductive and childhood developmental problems.

For example, endocrine disruptors, some of which are found in everyday consumer products, can detrimentally mimic, block or change the levels of hormones that control fertility, reproduction and fetal development.¹³ Several endocrine-disrupting chemicals are common in the environment and have been found both in breast milk and umbilical cord blood.¹⁴⁻¹⁷ A brief overview of these chemicals and their effects observed in human and animal studies is presented in the chart on the next page.

Scientists have identified fetal development and the first few years of life as critical windows of vulnerability to endocrine-disrupting chemicals.¹⁸⁻¹⁹ Exposures to a variety of chemicals at conception, in pregnancy or during infancy can disrupt hormones and cause irreparable, lifelong

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The Toxic Substances Control Act (TSCA) is an antiquated law intended to regulate chemicals in most consumer products. TSCA does not give the U.S. government the necessary tools to properly test, track or regulate hazardous chemicals that harm reproductive health.

Chemical Exposures and Reproductive Health Effects²⁰⁻²¹

ENDOCRINE-DISRUPTING CHEMICAL	EFFECTS IN HUMAN AND/OR ANIMAL STUDIES
Diethylstilbestrol (DES)	Hypospadias (a defect in the male urethra) Micropenis Vaginal cancer Infertility
Dioxins	Breast cancer Altered breast development Earlier menopause Impaired ovary function
Polychlorinated Biphenyls (PCBs)	Reduced penis length and fertility Decreased testosterone levels Poorer semen quality Delayed puberty Endometriosis
Phthalates	Reduced anogenital distance Decreased sperm counts Shorter pregnancy
Bisphenol A (BPA)	Increased prostate size Decreased testosterone levels Early puberty

resulting in widespread exposure to chemical mixtures. Surveys by the U.S. Centers for Disease Control and Prevention have identified measurable levels of more than 200 synthetic chemicals in the blood and urine of Americans, and virtually everyone in the United States has at least some of these substances in their bodies.²⁷ The actual risk posed to people by these complex mixtures has yet to be determined, but even the limited data indicate that manufacturers, regulators, physicians and consumers should pay close attention to the emerging scientific evidence as new national policies are developed.²⁸

damage or injury that may not become apparent until adulthood. Some studies suggest this harm, when it involves sperm or egg cells, may even extend into the next generation.²²⁻²³

Although TSCA was enacted in 1976, most of the 80,000 chemicals in commerce have not been tested for reproductive health effects, nor have there been meaningful regulatory actions to manage exposure to most reproductive toxins.²⁴⁻²⁵ Eighty percent of the 3,000 high production volume chemicals in commerce have not been tested for developmental or pediatric toxicity.²⁶ More than 700 of these chemicals are used in consumer products,

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ENDNOTES

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