

Pollution in People, Health Problems on the Rise

Reasons to Support the Kid-Safe Chemicals Act

THE UNITED STATES HAS THE HIGHEST CANCER RATE IN THE WORLD

EWG studies found 252 chemicals linked to cancer in 160 people tested (EWG 2008). Children face the greatest risks from exposures to carcinogens: Environmental Protection Agency studies show that infants up to age two are, on average, ten times more vulnerable to carcinogenic chemicals than adults, and for some cancer-causing agents are up to 65 times more vulnerable (EWG 2003). And these exposures, early in life, add to exposures over a lifetime to give the U.S. the highest cancer rates in the world:

- The United States leads the world in cancer incidence, with an estimated 17.7% of the U.S. population expected to develop cancer before the age of 65 (ACS 2006).
- The most recent study of global breast cancer rates (2002) showed that the U.S. has the highest incidence of breast cancer of any country in the world (ACS 2006). At current rates one in 8 women will develop breast cancer in her lifetime (NCI 2006).
- Overall in the U.S., one of every 3 women will develop cancer in her lifetime, and one of every 2 men (ACS 2008).
- Incidence of childhood cancers increased by 28% from 1974 to 1998, especially acute lymphoblastic leukemia, central nervous system tumors, and non-Hodgkin's lymphoma (Woodruff et al. 2007).
- Migration studies reveal that when migrants come from a country with relatively low rates of prostate and breast cancer like Japan to the U.S. early in life, their risk for prostate cancer increases 4 fold, and their risk for breast cancer increases 2.4 fold (Grover and Martin 2002).

ONE IN SIX CHILDREN HAS A DEVELOPMENTAL DISORDER

In school systems across the country entire classrooms are now devoted to the teaching of children with autism, who struggle with the disease at rates far higher than those of a generation ago. Studies show that 17% of all children are affected by a developmental disability; most impact the brain and nervous system. Parents, doctors, and scientists alike struggle to understand the causes and deal with the consequences. Scientists believe that industrial chemicals play a role in this "silent pandemic" (Grandjean and Landrigan 2006), though the chemical industry under current law is under no obligation to study the impacts or to produce products that are proven not to damage a child's brain.

- EWG testing found 242 chemicals in people linked to brain and nervous system damage
- Developmental disorders affect 1 in 6 children in the U.S. Most are disorders of the brain and nervous system (Grandjean and Landrigan 2006).
- The incidence of autism increased 10 fold from the 1970's to the 1990's (Blaxill 2004). 1 of every 150 children in the U.S. is autistic (CDC 2007b). 60% of children with autism are boys (CDC 2007b).
- 1 in 15 American children is diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) (Woodruff et al. 2004).



CHILDHOOD ASTHMA MORE THAN DOUBLED IN 20 YEARS

From asthma to diabetes and multiple sclerosis, many diseases of the immune system have been on the rise in recent years. Under current law chemical manufacturers are not required to study the extent to which exposures to chemicals are playing a role in these changes, but EWG studies show there is certainly cause for concern. Our tests have found 241 chemicals that can affect the immune system in 160 people tested, including 130 chemicals in 10 newborn babies (EWG 2008, EWG 2005). Statistics of concern, below, each represent many people all over the country struggling with diseases of the immune system:

- The childhood prevalence of asthma more than doubled from 1980 to 2001, from 3.6% to 9% (EPA 2007). Recent statistics from the American Lung Association suggest that nearly 10% of children ages 5 to 17 suffer from the disease (ALA 2007).
- Autoimmune diseases occur in 5 to 8% of the U.S. population, with women being affected disproportionately (NIH 1998).
- Women reporting a diagnosis of multiple sclerosis (MS) increased by a rate of 50% from the 1980's to the 1990's (Noonan et al. 2002).
- The incidence of Type 1 diabetes in U.S. children is increasing by 5% per year (Diamond 2006).

ONE IN EVERY EIGHT BABIES IS BORN PREMATURELY

Expectant parents anxiously anticipate the arrival of their newborn, hoping for a smooth birth and a healthy baby with a perfectly formed body. But one of every 33 couples faces a different outcome, welcoming into the world a child with a major birth defect. The changes this brings to a family can be profound and the costs to family and society enormous. Despite the impacts, the cause of most birth defects remains unexplained. In 160 people tested by EWG, we have identified 237 chemicals linked to birth defects and developmental problems (EWG 2008), including 151 chemicals in 10 babies at the moment of birth (EWG 2005).

- The CDC reports that 1 in 33 babies is born with a major birth defect (CDC 2007a); the cause of 70% of birth defects is unknown (March of Dimes 2006).
- Birth defects of the male reproductive system have increased in recent decades. The incidence of a penis deformity called hypospadias doubled between 1968 and 1993 and now affects 1 in 125 boys (CDC 2008, Paulozzi 1999).

3% of full-term baby boys are born with undescended testicles and face greater risks for testicular cancer later in life (Dogra 2007, Paulozzi 1999).

- From 1981 to 2004 the preterm birth rate increased 33%. 1 in 8 babies born in the U.S. is born prematurely, and faces higher risks for cerebral palsy, mental retardation, chronic lung disease, and vision and hearing loss (March of Dimes 2006).

SPERM COUNT FALLING AT 1 PERCENT A YEAR

For couples the struggles of infertility can last for many years, and even expensive interventions may not provide the child they hope for. Although scientists do not fully understand the role of industrial chemicals in rising rates of infertility, many studies now link common pollutants in the human body to damage of the reproductive system, including low sperm count, sperm damage, and harm to the ovaries and uterus. And the role of chemical exposures for girls who enter puberty early is also not understood. But some pediatricians are no longer surprised to see breasts or the beginning of pubic hair on a girl as young as 8. EWG studies find 149 chemicals that can damage the delicate cycles of the reproductive system in 160 people tested (EWG 2008).

- More than 1 in 10 U.S. couples is infertile. The percentage of couples reporting difficulty in getting pregnant or carrying a baby to full term increased by 20% from 1995 to 2002 (Barrett 2006). The increase is highest for women under the age of 25 (Barrett 2006).
- Recent U.S. studies indicate that girls are entering puberty earlier. The age at which girls undergo breast and pubic hair development decreased by 6 to 12 months from the 1960's to the 1990's (BCF 2007).
- Analysis of 101 studies (1934-1996) show that average sperm counts in industrialized countries are declining at a rate of about 1 percent each year (Swan et al 2000).

REFERENCES

ACS (American Cancer Society). 2008. Probability of Developing Invasive Cancers over Selected Age Intervals, by Sex, US, 2000-2002. Available at http://www.cancer.org/docroot/MED/content/downloads/MED_1_1x_CFF2006_Pro...

ACS (American Cancer Society). 2006. The Cancer Atlas: Table B - Statistics on Cancer. Available at http://www.cancer.org/docroot/AA/content/AA_2_5_9x_cancer_atlas.asp.

ALA (American Lung Association). 2007. Childhood Asthma Overview. Available at <http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=22782>.

Barrett JR. 2006. Fertile Grounds for Inquiry: Environmental Effects on Human Reproduction. *Environmental Health Perspectives* 114(11): A646-649.

BCF (Breast Cancer Fund). 2007. The Falling Age of Puberty. Available at <http://www.breastcancerfund.org/site/pp.asp?c=kwKXLdPaE&b=3291891>.

Blaxill MF. 2004. What's going on? The question of time trends in autism. *Public Health Reports* 119(6): 536-51.

CDC (Centers for Disease Control and Prevention). 2008. Back-

grounder: Hypospadias Trends in Two US Surveillance Systems. Available at <http://www.cdc.gov/od/oc/media/pressrel/hypospad.htm>.

CDC (Centers for Disease Control and Prevention). 2007a. Birth Defects: Frequently Asked Questions. Available at <http://www.cdc.gov/ncbddd/bd/faq1.htm>

CDC (Centers for Disease Control and Prevention). 2007b. Prevalence of Autism Spectrum Disorders- Autism and Developmental Disabilities Monitoring Network. Available online at [http://64.233.167.104/search?q=cache:iqk2dRAAd3uJ:cdc.gov/ncbddd/autism/...](http://64.233.167.104/search?q=cache:iqk2dRAAd3uJ:cdc.gov/ncbddd/autism/)

Diamond (DIAMOND project group). 2006. Incidence trends of childhood Type 1 diabetes worldwide 1990-99. *Diabetic Medicine*, 23, 857-866.

Dogra VS. 2007. Cryptorchidism. *Emedicine*. Article updated April 5, 2007. Available online at <http://www.emedicine.com/Radio/topic201.htm>.

EPA (U.S. Environmental Protection Agency). 2007. Report on the Environment (ROE). Health Status of the United States: What are the trends for children's environmental health issues? Available at <http://www.epa.gov/roe/roe/html/roeHealthSt2.htm>.

EWG (Environmental Working Group). 2008. Human Toxome Project. Mapping the Pollution in People. Available at <http://www.ewg.org/sites/humantoxome/>.

EWG (Environmental Working Group). 2005. Body burden. The pollution in newborns. A benchmark investigation of industrial chemicals, pollutants, and pesticides in human umbilical cord blood. Available at <http://archive.ewg.org/reports/bodyburden2/>.

EWG (Environmental Working Group). 2003. EPA cancer policy guidelines highlight risks to children. Available at <http://www.ewg.org/node/8683>.

Grover PL and Martin FL. 2002. The initiation of breast and prostate cancer. *Carcinogenesis* 23(7): 1095-1102.

Grandjean P, Landrigan PJ. 2006. Developmental neurotoxicity of industrial chemicals. *Lancet* 368(9553): 2167-78.

March of Dimes. 2006. March of Dimes Testimony Submitted to the Committee on Appropriations, Subcommittee on Labor, Health and Human Services and Education on FY 2007 Budget. Available at <http://www.marchofdimes.com/aboutus/MarchofDimesFY07appropstestimony.pdf>.

NCI (National Cancer Institute). 2006. Probability of Breast Cancer in American Women. Available at <http://www.cancer.gov/cancer-topics/factsheet/Detection/probability-breast...>

NIH (National Institutes of Health). 1998. Autoimmune diseases coordinating committee report. Available at <http://www3.niaid.nih.gov/healthscience/healthtopics/autoimmune/PDF/ADCC...>

Noonan CW, Kathman SJ, White MC. 2002. Prevalence incidence for MS in the United States and evidence of an increasing trend for women. *Neurology* 58: 136-38.

Paulozzi LJ. 1999. International trends in rates of hypospadias and cryptorchidism. *Environmental Health Perspectives*. 107(4). April 1999.

Woodruff TJ, Axelrad DA, Kyle AD, Nweke O, Miller GG, Hurley BJ. 2004. Trends in Environmentally Related Childhood Illnesses. *Pediatrics* 113(4): 1133-1140.