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We're Loaded with Toxins: Analyzing the Toxic Body Burden of Americans

By Judy Chinitz Gorman

The Environmental Working Group (EWG), a nonprofit organization, has taken on a huge project: analyzing the toxic "body burden" of Americans. What they have found is the stuff of which nightmares are made. The researchers tested for 525 toxins (analyzing subgroups of toxins in several different studies) and found 455 different toxins in their research subjects. On average, participants' bodies contained 60 toxins that could be detrimental to the stomach or intestines, 57 that could affect the health of the reproductive system, and 52 that could affect the brain and nervous system. To obtain this information the EWG tested the blood, urine, breast milk and umbilical cord blood of 72 randomly selected subjects. The toxins found in these subjects' bodies ranged from polybrominated diphenyl ethers, which are flame retardants found in furniture foam, computers and TVs (known to adversely affect brain development and the thyroid), to the heavy metals such as methylmercury, arsenic, lead and cadmium (which are particularly dangerous to infants, fetuses and children, and are known to cause cancer, a range of chronic illnesses and even death).

Perhaps most frightening of all is that 256 toxins known to cause birth defects and developmental delays were found, an average of 51 of these toxins per person. We know that fetuses and children can be critically damaged even by low levels of exposures to many of the toxins found.

The EWG also conducted a study in 2005 to assess the "body burden" of newborns. They tested umbilical cord blood from 10 randomly selected infants and found that an average of 200 industrial chemicals and pollutants had crossed the placenta. The list includes substances such as mercury, pesticides and perfluorinated chemicals (PFCs), which are the active ingredients or breakdown products of Teflon, Scotchgard and other fabric and carpet protectors, and food wrap coatings. All of these are linked to birth defects and developmental issues, as well as to cancer.

"Yes, this can seem very depressing and, yes, it is alarming. But the good news is that at least now science is moving in the right direction," says Lauren Sucher, EWG's director of public affairs. "Twenty years ago we didn't even know that chemicals could cross the placenta. Now we know differently. Now we can collect this kind of information so that hopefully soon we can make the best use of it."

The EWG is a small group of only 20 people, yet its voice is disproportionately loud. "We share this information with the CDC [Centers for Disease Control and Prevention]," says Sucher. "Every two years they put out the 'National Exposure Report,' which lays out what chemicals they found in the blood of Americans. Their sample sizes are much larger than ours, but while their data is a mile wide and an inch deep, ours is an inch wide and a mile deep. We complement each other."

EWG's Web site notes, "Our research brings to light unsettling facts that you have a right to know." There is plenty to be unsettled about, according to Sucher. For example, only 11 percent of the chemicals used in make-up, shampoo, soap and shower gel -- products used every day by millions of people -- have been screened for safety.

Sucher says a key reason for the lax regulation of chemicals is that the Toxic Substances Control Act (TSCA), which governs the industry's use of chemicals, is 30 years old and outdated. On August 2, 2006, the independent Government Accountability Office (GAO) presented its report to the Senate on

the effectiveness of the TSCA to protect Americans. In this report, "Actions Are Needed to Improve the Effectiveness of EPA's [Environmental Protection Agency] Chemical Review Program," the GAO states that "Chemicals play an important role in everyday life, but some may be harmful to human health and the environment . . . some chemicals, such as lead and mercury, are highly toxic at certain doses and need to be regulated because of health and safety concerns."

The GAO found that the EPA exerted its authority to require testing for fewer than 200 of the approximately 62,000 chemicals currently used in commerce, because the task was too costly and time-consuming. Additionally, since the TSCA was enacted, the EPA has banned or limited the production of only five individual chemicals or groups of chemicals.

The study also stated that the EPA's reviews of the safety of new chemicals "provide only limited assurance that health and environmental risks are identified because TSCA does not require companies to test chemicals before they notify EPA of their intent to manufacture the chemicals."

A Senate bill addressing this issue, S.1391, has been proposed by Senators Frank Lautenberg (D-NJ) and James Jeffords (I-VT). The EWG believes this bill would update and strengthen the TSCA. "Right now our governmental policy is one of first allowing the use of chemicals and worrying about their safety later. This bill will reverse that," says Sucher.

According to Sucher, the bill would place the burden of proof of a chemical's safety back on the manufacturer. It would also considerably reduce the parameters of what is considered confidential and allow the public much greater access to information. For the first time ever, chemical substances will have to meet a safety standard, described in the bill as "a reasonable certainty of no harm," she notes.

Such legislation, the EWG believes, could potentially play a significant role in preventing neurological and developmental disorders such as autism. In a 2004 report entitled "Overloaded?" the EWG notes that the work of Jill James and colleagues (see separate article in this issue) reveals that exposure to toxins may be particularly deleterious to children who are at risk of developing autism. James and colleagues found that many autistic children have a metabolic impairment that reduces their ability to rid their bodies of heavy metals and other toxins. The findings of James' research team, the EWG says, "potentially identify a subgroup of people with dramatically increased risk of harm from industrial chemicals, and provide important new evidence that policies designed to protect the average person, or even the average child, from chemical exposure, are insufficient to fully protect the public health."

Other nonprofit groups, including the Washington Toxics Coalition, the Alaska Community Against Toxics and Commonweal, also have tested for "body burdens" of toxins, and all have found similar results. Communities are beginning to use this information to leverage change with public awareness campaigns and legislative initiatives. The state of California, for example, recently passed a bill that mandates a state-based biomonitoring program for toxic exposures.

Information about the Environmental Working Group is available online at www.ewg.org. An online copy of the report "Overloaded?" is available at www.ewg.org/reports/autism/execsumm.php.

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