

Endocrine Disrupters: How Can We Protect Our Children?

By Ruth J Hickman, MD

New Orleans, LA—Today at the American Academy of Pediatrics Convention, Sophie Balk, MD, FAAP, warned of the threats posed to children by endocrine disrupters, a set of contaminants in the environment that interfere with the endocrine system. Dr. Balk is a practicing pediatrician in the Bronx, NY.

Dr. Balk remarked, “We see stories of endocrine disrupters in the news . . . bisphenol A in water bottles and cans, phthalates in nail polish, pesticides on grapes. Patients are asking us if these are harmful.” Other endocrine disrupters include polybrominated diphenyl ethers (used as flame retardants), and some sunscreen ingredients. She continued, “These hormones can mimic or block hormones, or alter their synthesis, metabolism or excretion.” They impact the cardiovascular system, the brain, the mammary glands, adipose tissue, and the reproductive system, as well as the endocrine system.

Dr. Balk explained that many new industrial chemicals are now ubiquitous in our environment. Pointing to examples of lead and asbestos, she noted, “Many chemicals initially seen as beneficial turned out to have adverse consequences.” She went on to explain, “Adult exposure to endocrine disrupters may have very different consequences than exposure to children, infants, or developing fetuses. And there may be a lag between the time of exposure and the manifestation of the problem.” Dr. Balk pointed out that these substances do not display the typical dose/response relationship: “With endocrine disrupters, even infinitesimally small levels of hormones may cause endocrine or reproductive abnormalities, especially during critical developmental windows.”

One endocrine disrupter, bisphenol A (BPA), is found in some hard plastic containers, in canned food linings, and in dental sealants. Though it imparts certain favorable qualities to these products, “It can leach into food, and is now found in the bloodstream of 93% of the population.” BPA has been linked to many problems in animals, including neurodevelopmental effects, endocrine effects, obesity, and cancers. There are few studies in humans, but there is associational evidence for a role for BPA in cardiovascular disease, diabetes, neurobehavioral problems, and wheezing in infants.

“Due to their only transient release of BPA, dental sealants are still recommended, except during pregnancy,” Dr. Balk advised. Patients can reduce their exposure through other means, such as avoiding placing plastics in the microwave and dishwasher, looking for products marked as BPA free, selecting fresh foods over canned, and choosing stainless steel water bottles. Plastics 1, 2, 4, and 5 may also be safer in this regard. “What’s interesting is that manufacturers are now voluntarily withdrawing BPA in response to consumer pressure.” Dr. Balk continued, “In July

of this year, the FDA declared that baby bottles and sippy cups can no longer contain BPA, and the FDA is currently considering a ban in infant formula containers.”

“This is really a regulations issue. The Toxic Substances Control Act is largely considered to be inadequate . . . it fails to protect children and pregnant women. But there is some hope for better regulation.” According to Dr. Balk, The Safe Chemicals Act proposed by Senator Lautenberg would “take meaningful steps to protect American families from harmful chemicals. This would require chemicals to be proven safe for children before entering the market place.”