# Bisphenol-A

In order to protect the health of children in Connecticut by further reducing their exposure to the toxic environmental chemical Bisphenol-A (BPA), the Connecticut Public Health Association (CPHA) supports legislation that would ban bisphenol-A from thermal receipt paper.

***Background***

Humans are routinely exposed to the chemical BPA, an endocrine disruptor, that it is widely used in the manufacturing of polycarbonate plastics and epoxy resins. It is one of he highest volume chemicals produced worldwide and studies have shown that under normal conditions BPA leaches from consumer products such as baby bottles, canned foods and beverages, dental sealants and many other consumer goods [1,2]. The Centers for Disease Control and Prevention (CDC) latest National Health and Nutrition Examination Survey (NHANES) analysis of over 2,500 Americans ages 6 and older found BPA in the urine of most people tested, which indicates widespread exposure to BPA in the U.S. population [3]. Additionally, researchers caution that at the current levels of BPA measured in humans, it is highly likely that BPA has the potential to cause disease or dysfunction [2].

Exposure to BPA has been associated with adverse animal and human health effects. Studies show possible low dose effects that include altered development of the fetal prostate and mammary glands, reduced testosterone production after birth, and changes in development of the neurological system [4,5,6] and linked BPA exposure to rodent mammary cancer, prostate cancer, and other dysfunctions[7,8,9,10]. Adding to these findings, the first major epidemiological study examined the health effects associated with BPA on a representative sample of U.S. adults. The findings suggest a significant relationship between urine concentrations of BPA and an increased prevalence of heart disease, diabetes, and liver enzyme abnormalities [11]. According to the Chapel Hill BPA Expert Panel [12], recent trends in human disease mirror the adverse effects observed in animals exposed to low doses of BPA, such as:

- an increase in prostate and breast cancer
- abnormalities of the urinary and genital systems in male babies
- decline in semen quality in men
- early on-set of puberty in girls
- metabolic disorders including Type 2 diabetes and obesity
- neurobehavioral developmental disorders such as attention deficit disorder (ADD)

Humans are particularly vulnerable to the adverse health effects of endocrine disruptors such as BPA during the various stages of development. There are scientific concerns about the negative effects in fetuses, infants, and children at current human exposure levels to bisphenol-A. A recent study showed exposure to BPA may even play a role in premature births [13]. Another study involving cord blood analyses showed every baby born today has toxic chemicals in his or her blood, including BPA, PCBs, phthalates, flame retardants, pesticides, lead, and mercury [14, 15]. This scientific data suggests embryos and fetuses are exposed to a vast array of toxic chemicals that cross the placental barrier throughout fetal development.

***Recommendation***

Many harmful effects from toxic chemicals are preventable. CPHA supports public policies that help reduce children's exposure to BPA. The Canadian Government, which banned BPA for use in baby

bottles in 2008, recently added BPA to a national list of toxic substances [16]. Although U.S. regulatory agencies are moving slowly regarding BPA, the Connecticut General Assembly was an environmental leader when it passed HB 6572 in 2009.


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