



Facts and Recommendations on Bisphenol-A (BPA) in Food and Beverage Packaging

In order to protect the health of children in Connecticut by further reducing their exposure to the chemical Bisphenol-A (BPA), the Connecticut Public Health Association (CPHA) supports legislation that would require banning or labeling food packaging that contains Bisphenol-A.

Background

Humans are routinely exposed to the chemical BPA, an endocrine disruptor that is widely used in the manufacturing of polycarbonate plastics and epoxy resins for food and beverage packaging and canned food linings. BPA is one of the 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]. Recent research suggests that most of the human exposure to BPA occurs by eating and drinking foods contaminated by BPA that has leached from plastic food and beverage packaging [3]. Scientists have also found breast milk to be tainted with BPA, likely due to food and beverage containers used daily by adults [3]. A 2005-2006 Centers for Disease Control and Prevention (CDC) study analyzed the urine of over 2,500 Americans ages 6 and older for evidence of BPA, finding it in the urine of most people tested. These findings indicate widespread exposure to BPA in the U.S. population [4]. 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].

Health Concerns

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 [5, 6, 7]. Studies have also linked BPA exposure to prostate and mammary cancers in rodents and effects on the brain, possibly affecting cognition and mood in nonhuman primates [9, 10, 11]. Adding to these findings, the first major epidemiological study examining the health effects associated with BPA on a representative sample of U.S. adults was published in JAMA in 2008. The findings suggest a significant relationship between urine concentrations of BPA and an increased prevalence of heart disease, diabetes, and liver enzyme abnormalities [12].

According to the 2007 Chapel Hill BPA Expert Panel Consensus Statement[13], 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)

Humans are particularly vulnerable to the adverse health effects of endocrine disruptors such as BPA during 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 [14]. Another study involving cord blood analyses showed every baby born today has toxic chemicals in his or her blood, including BPA [15, 16]. These data suggest embryos and fetuses are exposed to a vast array of toxic chemicals that cross the placental barrier throughout fetal development.

In 2010, the U.S. Food and Drug Administration (FDA) released a statement due to concerns about the effect BPA may have on infants and young children, noting specific adverse effects on the brain, human behavior, and prostate gland in fetuses. This update also stated the FDA is attempting to decrease human exposure to BPA by [17]:

- Supporting the industry's actions to stop producing BPA-containing baby bottles and infant feeding cups for the U.S. market;
- Facilitating the development of alternatives to BPA for the linings of infant formula cans; and
- Supporting efforts to replace BPA or minimize BPA levels in other food can linings

Although the FDA states they are researching the safety of BPA and are in favor of stricter regulation, currently, they have only given interim public health recommendations to decrease BPA exposure [16, 18]. Requests have been made to the FDA to ban BPA in food packaging by the Natural Resource Defense Council (NRDC). Legally, the FDA is obliged to respond, and when they failed to do so, NRDC filed suit in 2010. On December 7, 2011, it was decided by the Court that the FDA has until March 31, 2012 to decide if BPA in food packaging should be banned [19]. The Canadian Government, which banned BPA for use in baby bottles in 2008, recently added BPA to a national list of toxic substances [20]. Just last year, a European Union ban of BPA use in baby bottles went into effect, followed by similar action in China, Malaysia, Canada and the United Arab Emirates. [21] This year, decisions regarding BPA packaging in food will be made in France, and if passed, the issue will be referred to the European Union possibly leading to a large-scale ban [22].

Recommendation

With many harmful effects from toxic chemicals being preventable, CPHA supports public policies that reduce the public's, specifically children's, exposure to BPA. Short a full ban of BPA use in food and beverage packaging, CPHA supports labeling of these products as a step in the right direction to educating consumers, with the ultimate goal of reducing exposure. Although U.S. regulatory agencies continue to move slowly regarding regulation of BPA, the Connecticut General Assembly proved its leadership in both 2009, when it approved PA 09-103 AAC Banning Bisphenol-A in Children's Products and Food Products, and again in 2011, when PA 11-222 AA Prohibiting the Use of Bisphenol-A in Thermal Receipt Paper was passed [23].

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Resources

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