HEALTH SCIENCES BULLETIN

Recent JAMA Study Findings Raise New Concerns about the Safety of Bisphenol A (BPA)

You may have heard about the potential harmful effects of BPA, a chemical modifier commonly used in some plastic containers and the linings of some canned foods. Now, a new study published in the Sept. 17, 2008, issue of the Journal of the American Medical Association (JAMA) highlights BPA's potential health risks, reaffirming the importance of Shaklee's commitment to BPA-free packaging as a part of our longtime emphasis on consumer safety.

British researchers Lang and colleagues report the results of the first major epidemiologic study to examine the health effects associated with BPA and show that higher urine BPA levels are correlated with higher prevalence of cardiovascular disease (coronary heart disease, heart attack, and angina), diabetes, and liver enzyme abnormalities. The cross-sectional study of 1,455 adults, intended to be representative of the adult U.S. population, found double the normal risk for heart disease and diabetes, but also discovered no association with any other health effects. The investigators also indicate that these findings add to the evidence suggesting adverse effects of low-dose BPA on animals but emphasize that independent replication and follow-up studies are needed to confirm both the findings and whether the associations are causal.[1] An accompanying editorial also suggests that U.S. regulatory agencies should follow recent Canadian government decisions and require aggressive action to reduce human and environmetal exposures to BPA.[2,3]

In 2007, the Centers for Disease Control and Prevention (CDC) published results that BPA had been detected in the urine of nearly 93% of those tested, a finding indicating widespread exposure to BPA in the U.S. population. This analysis looked at urine samples obtained from 2,517 people ages 6 and older who took part in CDC's National Health and Nutrition Examination Survey (NHANES) between 2003 and 2004. Females had higher levels than males, and children had the highest levels, followed by teens and adults.[4]

Shaklee's Commitment to BPA-Free Packaging

Shaklee's first commitment is to product safety and, as such, our product packaging has long been free of plastics that might contain the potential toxin bisphenol A. Today, you can rest assured that all Shaklee products are packaged in BPA-free materials.

Common Exposures from BPA

BPA is a chemical produced in large quantities primarily for use in the manufacture of polycarbonate plastics and epoxy resins. Polycarbonate plastics typically are clear and hard and have many applications, including use in certain food and beverage packaging such as water and infant bottles, as well as compact discs, impact-resistant safety equipment, and medical devices.

According to the CDC, about 7 billion pounds of BPA are produced worldwide each year, and the Centers' analyses have found that 93% of Americans have detectable levels in their urine.[4,5,6] Animal studies have linked high levels of BPA to increased risk for diabetes, brain damage, developmental abnormalities, certain precancerous changes, and a variety of other health problems.[7, 8, 9] The cause of the increased risk has not been fully determined, but various theories include BPA's potential action as a hormone disruptor or modulator.[4, 9]

Two studies conducted earlier this year provided possible explanations of the recent findings published in JAMA. In April, Spanish researchers reported that BPA caused pancreatic cells to increase their production of insulin in mice, leading to insulin resistance, a precursor of diabetes.[10] A separate study at the University of Cincinnati showed BPA inhibits the release of a key biochemical that protects humans from metabolic syndrome, a collection of health risks that increase a person's chances of developing heart disease, stroke, and diabetes.[11]

Government Positions on BPA Safety

The FDA has long argued that there is an existing margin of safety that is adequate to protect consumers—including infants and children—at the current levels of exposure. However, others point out that the FDA's conclusions are based on selected studies and don't adequately consider studies that found adverse effects.[9] Earlier this year, the National Toxicology Program explained in a preliminary report there was some concern that the chemical posed a risk to fetuses, babies, and children, as emphasized in this latest JAMA study.[12] Specifically, researchers and public health activists also are calling upon the U.S. government to consider alignment to a recent action by the Canadian National Public Health Agency, which in May 2008 released a report calling BPA a potentially harmful chemical.

Reducing Exposure to Harmful BPA

Although there are no official recommendations for reduced exposure levels set by leading public health organizations, there are important steps consumers can take to minimize BPA exposure. The following are a number of simple suggestions to help you reduce your BPA exposure and are based on recommendations from the Environmental Working Group (EWG).[13, 14]

Basic Tips to Reduce Exposure to and Intake of BPA

• Avoid Reusable Polycarbonate (labeled #7) Plastic Water and Baby Bottles. As a general rule, avoid water bottles and baby bottles labeled #7, which tend to be hard and clear. Many reusable water bottles are made of polycarbonate plastic—including many of the popular colorful plastic water bottles—that leaches BPA into the water. Choose polyethylene or unlined aluminum bottles

instead. Use glass baby bottles instead of plastic, and always discard damaged plastic containers. These are better choices for you, your family, and the planet.

• Avoid Polycarbonate Plastic Food Containers and Tableware. These may also be labeled "PC" underneath a plastic code #7 in the recycling triangle on the bottom of the container. Representing a better choice are usually the BPA-free plastics with the recycling labels #1, #2, or #4 and #5. Be aware that BPA can leach from the plastic into foods and beverages, especially when the material is heated or used for long periods of time. Opt for ceramic, glass, or other microwavable dishware. Soft or cloudy-colored plastic containers do not contain BPA.

• Minimize the Use of Canned Foods and Canned Drinks. Until industry reformulates the lacquer lining of metal cans, limit your consumption of certain canned foods such as tomato sauces because the high acidity causes more of the chemical to leach from the lining of the can. Choose fresh or frozen foods or those in glass containers or bottles. The recent study by EWG found BPA in more than half of the 97 cans of brand-name fruit, vegetables, soda, and other common canned goods that were tested.

• Ask your Dentist for BPA-Free Sealants and Composite Fillings. Some dental resins are free of, or low in BPA. Ask your dentist if he or she knows about BPA and ask him or her to use low- or no-BPA dental compounds.

• Avoid microwaving or heating any food in plastic containers or canned food. Heating any plastic materials may release plastic modifiers directly into food.

Be well!

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