Bisphenol-A (BPA): How to Reduce Exposure

Colorado Department of Public Health and Environment

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Q: What is bisphenol A (BPA)?

Bisphenol-A (BPA) is an additive that has been used for more than 40 years to harden plastics, keep bacteria from growing in foods and prevent cans from rusting.

Q: Why is there concern over BPA lately?

- Recent studies have led scientists and federal government agencies to express some concern that BPA may have harmful effects on people.
- Babies and young children seem to be at most risk because
  - their bodies are growing and changing so quickly; and
  - they eat and drink more per pound of body weight than adults.
- Exposure to BPA is widespread.
  - Studies have found that more than 90 percent of people tested had BPA in their urine, which means it was in their bodies. BPA also can be found in breast milk.

Q: What are the possible health effects of BPA?

Based on the recent studies, both the National Toxicology Program (NTP) at the National Institutes of Health and the U. S. Food and Drug Administration (FDA) have some concern about the potential effects of BPA on the brain, behavior and prostate gland in fetuses, infants and young children. In addition, some studies in the general population have reported limited associations between elevated BPA exposure and health effects such as diabetes or heart disease. More studies are needed to better understand the health effects of BPA, especially at low levels.

Q: What is the government doing to address concern about BPA exposure and health concerns?

Federal agencies are pursuing additional animal and human studies to better understand the human health effects. In addition, the FDA is taking other major steps that include

- 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;
- supporting efforts to replace BPA or minimize BPA levels in other food can linings; and
- supporting a shift to more regulation for oversight of BPA.

Q: Where is BPA found?

BPA is the building block for polycarbonate, a hard, strong plastic used to make compact disks, eyeglass lenses, drinking glasses, water bottles and baby bottles.

BPA is primarily found in polycarbonate plastic and in the plastic (epoxy resin) lining of canned food.

- **To find out if a bottle has BPA in it, look for a code on the bottom.**
  - If you see a No. 7 recycling symbol, the letters "PC," and the bottle is clear, hard plastic (or has a tinted color), it could contain BPA.

- Many food and liquid containers are either made with plastics or have a protective plastic coating that contains the chemical BPA.
- Some polymers used as dental sealants and tooth coatings also contain BPA.

Q: How does BPA get into the body?

Almost everyone in the United States is exposed to some BPA. The most common way people are exposed to BPA is from the diet through foods or drinks packaged or prepared in containers that contain BPA.

- BPA can leach into food from the protective internal plastic lining of canned foods and from consumer products such as polycarbonate tableware, food storage containers, water bottles and baby bottles.
- The temperature of the contents determines how much BPA passes into food or drink from the container, because heat may cause the release of BPA from plastics that contain it.

Q: How are babies and infants exposed to BPA?

Infants are most often exposed to BPA in several ways:

- A small amount of BPA can pass from the lining in a can into the liquid formula and can be consumed by a child.
- In rare cases, small amounts of BPA are found in powdered infant formula.
- BPA also can pass into an infant's formula or milk from certain types of plastic baby bottles when hot liquid is added directly into the bottle.
- During pregnancy, fetuses can be exposed to BPA from their mother. This could happen if the mother swallows BPA that has passed from a can or plastic container she eats or drinks from.

Q: How can people reduce their exposure to BPA?

- **For Breastfeeding Infants:** Infant BPA exposure from breastfeeding is expected to be low compared to exposure from formula.
- **For Bottle-Feeding Infants:** To limit possible exposure to BPA, parents should do the following;
  - **Be aware of the type of bottle they use.**
    - Parents should try to use plastic bottles labeled "BPA Free" or bottles made of a cloudy, or frosted-looking plastic. (These bottles do not contain BPA.)
    - As of January 2009, the major U.S. manufacturers of baby bottles and infant feeding cups have stopped manufacturing these products using BPA. These manufacturer's brands include Avent, Doctor Brown's Natural Flow, Evenflo, First Essentials, Gerber, Munchkin, Nuk and Playtex.
    - Parents could use glass bottles, but they must be mindful of the risk of injury to themselves or their baby if the bottle is dropped or broken.
  - **Be aware that temperature matters.**
    - Avoid heating milk or formula in polycarbonate plastic bottles.
    - Avoid placing hot milk or formula directly in polycarbonate plastic bottles.
    - Sterilize and clean bottles according to instructions. Bottles should be left to cool to room temperature before adding infant formula or milk.
    - Hand-wash plastic bottles with water and soap. Do not use brushes or harsh detergents that could scratch the bottles.
  - **Avoid liquid or powdered formula packaged in metal cans, where possible.**
    - Try to use powdered formula packaged in cardboard boxes.
  - **Discard scratched baby bottles and feeding cups**.
    - If they contain BPA, worn baby bottles and cups may release small amounts of the chemical.

There are known nutritional benefits of breast milk, and mothers are encouraged to breastfeed their infants.

Infant formula in any packaging can offer important health advantages for some infants, and the proven benefit of good nutrition outweighs the potential risk of BPA exposure.

- **For Pregnant or Breastfeeding Women:** Women who are pregnant or breastfeeding could consider
  - not heating food or drinks in polycarbonate plastic containers;
  - not microwaving foods covered in plastic wrap;
  - replacing any aged, scratched or clouded polycarbonate plastic containers, including water bottles;
  - reducing the amount of canned food eaten from plastic-lined cans while maintaining a healthy diet. Remember, there are important nutritional benefits of eating a variety of foods, whether they are fresh, frozen, dried or canned.
- **For Members of the General Public:**
  - Avoid heating foods in or placing hot foods in polycarbonate containers.
  - Avoid microwaving foods covered in plastic wrap.
  - Avoid the use of polycarbonate dishes and other tableware.
  - Hand-wash plastic containers with water and soap.
  - Reduce the amount of canned food eaten from plastic -lined cans while maintaining a healthy diet. Remember, there are important nutritional benefits of eating a variety of foods, whether they are fresh, frozen, dried or canned.

Q: How can people choose safer plastics (BPA-free) for food and beverage containers?

Check the symbol on the bottom of the plastic items before buying. Safer plastic choices for **low-temperature applications** will have the following symbols:

For more information about the health effects of BPA, please contact Shannon Rossiter, MPH, at 303-692-2617 or Raj Goyal, Ph.D., at 303-692-2634.

References:

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