

Plastic Bottles Leach Carcinogens

Lyle Loughry, July 2008

One big health story in the news in recent months has focused on the dangers of BPA -- *bisphenol A*, an estrogen-like chemical used in manufacturing plastics, including those in reusable plastic bottles.

This spring, a report from the US National Toxicology Program revealed that even low exposures to BPA produced alterations in the brains and behavior of rats, along with precancerous changes in the prostate and breast, and early puberty. Retailers Toys-R-Us and Wal-Mart reacted quickly, announcing a voluntary phase-out on the sale of baby bottles and cups containing BPA, and the FDA committed to review the safety of baby-feeding products using the chemical.

These are great first steps, since developing brains are the most vulnerable -- but BPA isn't exactly healthy for adolescents and adults either. And in fact, the report affirmed the possibility that BPA might be associated with similar effects in older humans, saying it "cannot be dismissed." With athletes, hikers and people all over our office carrying water bottles around all day, this is an issue that clearly needs to be addressed.

A NEARLY UBIQUITOUS CHEMICAL

The most common use of BPA is in "polycarbonate plastics" which are what make plastic products flexible, shatter-resistant and reusable. More than six billion pounds of this toxic chemical are produced annually in the US, for use in a wide range of products, including those ubiquitous water bottles, plus liners of food cans, eyeglasses, dental sealants, CDs and DVDs.

Scott M. Belcher, PhD, who has conducted research into the health effects of BPA at the University of Cincinnati, states that the Centers for Disease Control and Prevention (CDC) has detected trace amounts of BPA in more than 90% of Americans tested. In his research, Dr. Belcher found that developing brain cells in rats are extremely sensitive to the effects of estrogen stimulation from such chemicals. Over the long term, this is likely to lead to changes in behavior. There is reason to believe that there are also effects on reproduction that can lead to the development of reproductive cancers. Other potential dangers, including effects upon the nervous and immune systems, have also been identified.

SAFER ALTERNATIVES ARE AVAILABLE

Fortunately, there are safer alternatives to BPA -- and Dr. Belcher says it's good

news that market forces are driving retailers to offer more of them, since he believes that capitalism creates change at a faster pace than government regulatory action. Don't wait for that to happen, though. There are proactive steps you can take to limit exposure to BPA in the meantime. As mentioned above, precautions are especially important for those at highest risk -- infants, young children and pregnant or nursing women. It's admittedly difficult to avoid BPA altogether, since it is used in so many products, but taking the following steps can minimize exposure going forward:

Choose glass or stainless steel bottles instead of plastic -- or, if you need an unbreakable product, choose other plastics like polypropylene and the new BPA-free plastics now being used.

Do not purchase plastics labeled with a number 7 recycling code because polycarbonate falls into this category.

Buy products labeled as BPA-free. Examples of "safe" plastic water bottles, for instance, include CamelBak Better Bottle line (made from Eastman Tritan copolyester) and Nalgene HDPE and Everyday lines (made from high-density polyethylene or Tritan copolyester).

Don't microwave or otherwise heat food in plastic containers. Instead, choose glass, ceramic or other microwave-safe dishes. Also avoid putting hot liquids into any plastic bottles and containers, as heat increases the rate at which BPA leaches or escapes into liquid. Be aware that even at room temperature BPA can be a danger. Dr. Belcher says the best way to limit exposure is to avoid using these plastics altogether.

Source(s): Scott M. Belcher, PhD, associate professor, pharmacology and cell biophysics, University of Cincinnati, Cincinnati, Ohio.