

## **Bisphenol A (BPA) and concerns for breast cancer**

BPA is a chemical used in the production of shatterproof polycarbonate plastics and epoxy resins and is one of the highest volume chemicals produced worldwide. It is found in a wide range of consumer products such as food packaging, the lining of some tin cans, linings of glass jar lids, water and baby bottles, compact discs, bottle tops, white dental fillings, nail polish, contact lenses, false teeth, adhesives, and flooring.

Unfortunately, like many toxic chemicals in consumer products, BPA rarely remains in the product itself. The potential for human exposure exists right along the line from production through to disposal. During manufacture workers can be exposed. During usage the public are exposed, especially when the product is washed, scratched and/or heated. And even a product's final resting place can leach toxic chemicals like BPA from landfill sites into water supplies.

BPA is an oestrogen mimic and endocrine disruptor. Endocrine Disrupting Chemicals (EDCs) have the capacity to mimic hormones and to interfere with the hormonal messaging systems that regulate our normal everyday body functions.

Studies have shown that pre-birth and early exposures to BPA can lead to changes in the breast and mammary glands which then predispose the body to develop breast cancer later in life. Predisposition can mean that even very low dose exposure to BPA, or another EDC or carcinogen, puts women at an increased risk of breast cancer.

These cumulative low doses, combined with other daily exposures, are of very serious concern given the oestrogenic activity of BPA. Also, the timing of the exposure can be more important than the quantity of the dose: pre-birth, early childhood, and puberty are critical windows of vulnerability. A measurable level of BPA in humans has also been linked with obesity, diabetes, heart disease, and ADHD, the hyperactivity disorder.

The Royal Society, the independent scientific academy of the UK and the Commonwealth, completed a report on Endocrine Disruptors in June 2000<sup>1</sup> and one of their main recommendations to Government was that "policies to deal with the current concerns must be developed. Regulations cannot be 'put on hold' until all the evidence has been collected. Development of policies and regulations must go hand in hand with ongoing research and any legislation must be able to adapt rapidly to advances in scientific knowledge."

In 2007 the Chapel Hill Consensus Statement on BPA<sup>2</sup> was published in the US, authored by 38 international scientists specialising in researching BPA. Their conclusion was that an overview of the results of research to date showed that "recent trends in human diseases relate to adverse effects observed in experimental [laboratory] animals exposed to low doses of BPA." Their specific examples included breast and prostate cancers, and early onset of puberty in girls. They went on to point out that "these developmental effects are irreversible".

Then, in September, 2008, the US National Toxicology Program<sup>3</sup> (US NTP) published a report stating that BPA can cause changes in behaviour and within the brain, mammary glands, and the prostate gland, and can alter the age at which females attain puberty. Both early puberty and potential changes to the mammary gland can contribute to breast cancer. The US NTP stated that "the possibility that Bisphenol A may alter human development cannot be dismissed."

As a result of these conclusions Canada declared BPA toxic<sup>4</sup> last year and is working on legislation to ban the substance from baby bottles to protect its population from any long term effects caused by exposure to BPA. The US is also making progress with new legislation to ban BPA from food

and drink containers, as well as baby products. And, in July, nine French MP's tabled a Bill calling for a ban on BPA in all products throughout France including imports. However, in correspondence received from our own Minister of State for Health this June, after we'd queried the general use of BPA, we were told that the Food Standards Agency (FSA) "is satisfied that there is no risk to the health of UK consumers".

BCUK is very concerned about the widespread use of BPA in consumer products. This is particularly relevant for women and girls given its link with breast cancer. Consumers do not have the opportunity to make an informed choice due to lack of useful labelling or information about whether a product contains BPA or not.

### What Breast Cancer UK would like to see happen now we know about BPA

- Labelling of all consumer products which contain BPA.
- The FSA to initiate a precautionary approach to this substance and ban it from all baby & toddler bottles, training cups, food containers, and tableware immediately.
- The UK Government to implement a planned phase out of BPA from all consumer products, especially those used by women and girls, in order to reduce their overall risk of breast cancer.

#### But how do I avoid it for now?

For babies & toddlers bottles and products, avoid items made from clear hard polycarbonate plastic which may be labelled #7 or bottles made from PVC labelled #3. Return scratched or unwanted items to the retailer or manufacturer, stating why you no longer wish to use them.



Sometimes states **BPA** underneath



Types 1 (PET), 2 (HDPE), 4 (LDPE), and 5 (PP) do not use BPA during polymerization or package forming, and thus cannot leach the substance into food or beverages.

Choose glass bottles or BPA-free plastic bottles and try to avoid buying unlabelled or unmarked plastic products. For more information see National Childbirth Trust <http://www.nct.org.uk/info-centre/information/view-119> and the Ethical Consumer organisation <http://www.ethicalconsumer.org/FreeBuyersGuides/babychild/babybottlesandcups.aspx> for more information on BPA-free products for babies

### What You Can Do – Action Alert

Write to your **MP** <http://www.writetothem.com/> asking them to support a ban on BPA in baby & toddler products and requesting proper labelling. Send a copy of your correspondence and this information to your local newspaper – and let us know the results. Thank you for your support.

#### References

1. <http://royalsociety.org/displaypagedoc.asp?id=11310> – Royal Society report on Endocrine Disrupting Chemicals (EDC's), June 2000
2. <http://www.environmentalhealthnews.org/newscience/2007/2007-0801bpaconsensus.pdf> - Chapel Hill Consensus Statement  
<http://www.ourstolenfuture.org/Consensus/2007/2007-0803chapelhillconsensus.html>
3. <http://cerhr.niehs.nih.gov/chemicals/bisphenol/bisphenol.pdf> - US National Toxicology Program National Institute of Environmental Health Sciences
4. <http://www.treehugger.com/files/2008/04/health-minister-canada-bans-bpa.php> - Media article BBC report – <http://news.bbc.co.uk/1/hi/health/7384838.stm>