



# Newsletter

Contact us



877.656.9596



newsletter@labrix.com



## More Men's Health - Environmental Influences

**By** now most have heard about bisphenol-A (BPA) and its deleterious effects on the endocrine system. A few years ago we wrote a newsletter about how BPA affects the neurological and endocrine systems of infants and children, and we've mentioned how it (and other xenoestrogens) can contribute to many women's health concerns including endometriosis, infertility and polycystic ovarian syndrome - but what about the men in our lives? Since June is officially Men's Health Awareness Month, it's a good time to talk about "the stronger sex", as they are not immune to the negative effects of environmental contaminants.

BPA is an organic compound found in many plastics since the 1960s, and human exposure to BPA is thought to be ubiquitous.<sup>1</sup> There is some debate about the quantity of exposure necessary to cause adverse effects. The EPA currently sets the human exposure limit as 50 mcg/kg/day,<sup>2</sup> although there are numerous studies that suggest toxic levels occur at much lower doses. For example, a recent study found that oral administration of only 2 mcg/kg for 14 consecutive days to study rats reduced the sperm count as well as the serum levels of testosterone and FSH.<sup>3</sup> This has significant implications when it comes to fertility; however, decreased testosterone levels also put a man at greater risk of developing cardiovascular and metabolic disease. And, if the decreased testosterone isn't sufficient risk, BPA exposure contributes directly to metabolic syndrome and diabetes risk by disrupting the release of insulin from pancreatic beta cells.<sup>4</sup> In addition to affecting fertility and increasing the risk of diabetes, BPA also has negative implications relating to prostate cancer. Exposure in utero increases a man's risk of developing prostate cancer later in life, and low concentrations of BPA increases both proliferation of prostate cells, and the migration and metastasis of prostate cancer cells.<sup>5</sup>

These are all compelling reasons to keep our children, but also our husbands, fathers, and brothers away from BPA. The fact is that no one should be exposing themselves to this dangerous chemical. Common sources of exposure to BPA include hard, reusable, plastic water bottles or food containers (especially bad if food or beverages are heated in them), canned food liners, thermal receipts and soda and beer cans. So remember to skip the receipts, eat fresh foods and enjoy that next frosty beverage from a nice cold glass bottle.

### Resources

1. Vandenberg LN, Chahoud I, Heindell JJ et al. Urinary, circulating, and tissue biomonitoring studies

indicate widespread exposure to bisphenol A. Cien Saude Colet. 2012 Feb; 17(2):407-34.

2. Integrated Risk Information System: Bisphenol A. (CASRN 80-05-7): Oral RfD Assessment: Bisphenol A; 1988 [cited May 10, 2013]
3. Pengpeng J, Wang X, Chang F et al. Low dose bisphenol A impairs spermatogenesis by suppressing reproductive hormone production and promoting germ cell apoptosis in adult rats. J Biomed Res. 2013 March; 27(2): 135-144.
4. Jayashree S, Indumathi D, Akilavelli N et al. Effect of Bisphenol-A on insulin signal transduction and glucose oxidation in liver of adult male albino rat. Environ Toxicol Pharmacol. 2013 Mar, 35 (2): 300-10. Mohan M, Tracey R, Guerrero-Bosagna C, Skinner MK. Plastics derived endocrine disruptors (BPA, DEHP and DBP) induce epigenetic transgenerational inheritance of obesity, reproductive disease and sperm epimutations. PLOS ONE 8(1): 1-16.
5. Nagel SC, Vom Saal FS, Thayer KA et al. Relative binding affinity-serum modified access (RBA-SMA) assay predicts the relative in vivo bioactivity of the xenoestrogens bisphenol A and octylphenol. Environ. Health Perspect. 1997;105(1):70-6
6. Derouiche S, Warnier M, Mariot P et al. Bisphenol A stimulates human prostate cancer cell migration via remodeling of calcium signaling. Springerplus. 2013 Dec; 2(1): 54.

## Upcoming events

West Coast Core Training

July 27, 2013

[Register Here](#)