

A Focus On Diethylstilbestrol

DES and BPA: The Same Yet Different

Pay Attention to the Dose

By Fran Howell

Howls of protest erupted in March when the Food and Drug Administration (FDA) opted to continue studying bisphenol A (BPA), rather than ban its use in products that put it in contact with food. Consumer activists have been pushing for tighter regulation amid growing concerns about BPA's potential health impacts.

Like DES, BPA is an endocrine disruptor, so it falls into the category of a chemical that interferes with the way our bodies process hormones. **BPA and DES are both synthetic estrogens developed in the 1930s and have very similar chemical structures.**

DES was prescribed to pregnant women, while BPA was put on the shelf until the 1950s when its ability to harden plastics was recognized. It is so widely used that avoiding BPA has become problematic. It can be found in canned food linings, water bottles, CDs, plastic dental sealants used in fillings, and all sorts of hard plastic items such as the coffee makers in our homes.

The list of health issues that appears to be associated with BPA exposure sounds significantly similar to those known to be linked to DES exposure: reproductive tract abnormalities, infertility and breast cancer.

In the 1990s, University of Missouri researcher Fred vom Saal was examining the results of extra estrogen

exposures on embryonic development. He used DES as a control, because its impacts have been well studied. To his surprise, when he gave pregnant mice BPA, it caused enlarged prostates in male offspring, just as DES did in his studies. That sparked vom Saal's interest because BPA is in so much that is plastic in our environment.

But we don't eat plastic, so how does it get into our bodies? The answer came accidentally in the lab of researcher Pat Hunt. She was conducting an experiment that suddenly went haywire with extremely odd results from one week to the next. She eventually figured out that a lab worker had used the wrong, and stronger soap, for washing the mouse cages and water bottles. This caused the plastic to deteriorate and allowed bisphenol A to leach into the animal's food and water supplies. That is why there is a push to remove BPA from coming in contact with the products we eat and drink.

BPA, like DES, seems to affect hormonally-influenced areas of our bodies such as breasts, prostate and other reproductive organs. Studies show it has its most powerful impact on developing fetuses, babies and young children by apparently acting like an extra estrogen exposure in the body.

But this is where it gets interesting.

While the effects of BPA have been found to occur in infinitesimally LOW doses, DES was

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prescribed to pregnant women in HIGH doses! It is an important distinction to keep in mind and scientists are trying to unravel what is going on. Why do many of the same health effects show up in prenatal low dose BPA exposures as in prenatal high dose DES exposures?

Meanwhile, as the FDA dithers about regulating BPA, consumers are left on their own for protecting their health. Luckily, it's becoming easier because companies like Campbell's Soup are planning to remove BPA from their packaging and other firms now sell BPA-free plastics. Also, several states and communities have banned the sale of BPA food containers or products for children. Of course, no one yet knows how safe the BPA replacement chemicals will be!

DES VOICE