

Exposure to BPA may cause permanent fertility defects, researchers find

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Researchers at Yale School of Medicine have discovered that exposure during pregnancy to Bisphenol A (BPA), a common component of plastics, causes permanent abnormalities in the uterus of offspring, including alteration in their DNA. The findings were reported in the March issue of *Journal of the Federation of American Societies for Experimental Biology (FASEB J.)*.

Led by Hugh S. Taylor, M.D., professor in the Department of Obstetrics, Gynecology & Reproductive Sciences at Yale, the study is the first to show that BPA exposure permanently affects sensitivity to estrogen.

Taylor and his team used two groups of mice, one exposed to BPA as a fetus during pregnancy and another exposed to a placebo. They examined gene expression and the amount of DNA modification in the uterus. They found that the mice exposed to BPA as a fetus had an exaggerated response to estrogens as adults, long after the exposure to BPA. The genes were permanently programmed to respond excessively to estrogen.

"The [DNA](#) in the uterus was modified by loss of methyl groups so that it responded abnormally in adulthood," said Taylor. "The gene expression was permanently epigenetically altered and the uterus became hyper-responsive to estrogens."

Taylor said that exposure to [BPA](#) as a fetus is carried throughout adulthood. "What our mothers were exposed to in [pregnancy](#) may

influence the rest of our lives. We need to better identify the effect of environmental contaminants on not just crude measures such as birth defects, but also their effect in causing more subtle developmental errors."

More information: The FASEB Journal (Journal of the Federation of American Societies for Experimental Biology) Vol. 24, Issue 3 (March 2010)

Provided by Yale University

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