

For the record: does exposure to BPA during pregnancy affect aggressive behaviour in children?

The Society for Endocrinology Endocrine Disruptors Special Interest Group joined forces with [Sense About Science](#) to respond to a story printed in several national newspapers, including the *Daily Mail*¹, *The Independent*² and *The Daily Telegraph*³, on 24 October 2011. The stories report on a study which suggests that high blood bisphenol A (BPA) levels in mothers may be linked to behavioural problems in their daughters⁴.

Here, Professor Richard Sharpe, University of Edinburgh/MRC Centre for Reproductive Health and Convenor of the Society for Endocrinology [Special Interest Group on Endocrine Disruptors](#), explains the limitations of this research:

“The authors of this study cannot tell whether the reason for observed behavioural changes relate to BPA exposure or to diet. This is because around 95% of people’s BPA exposure is from what they eat and drink. Therefore, it is difficult in such ‘association studies’ to separate diet from BPA exposure. We know that diets containing higher levels of BPA tend to be less healthy (more canned and bottled products), and we know that diet can exert big developmental and behavioural effects, so diet is a huge potential confounding effect.

“This study measured the level of BPA in urine samples to estimate exposure, but what this measures is inactive BPA. The best recent scientific evidence - from feeding studies in human volunteers, where BPA was labelled and tracked through the body - shows that BPA is processed and excreted extremely rapidly, so that the amount that passes into the bloodstream in a biologically active form is so small that it cannot be measured. Studies measuring urinary BPA levels therefore do not tell us anything about the tissue (e.g. brain) exposure to BPA in the body, but this is likely to be tiny.”

“The authors mention that BPA has intrinsic weak hormonal activity as an oestrogen and imply that this could cause behavioural changes in the girls. Much of this thinking is based on effects of oestrogens in rodent models that are not relevant to humans. In any case, at the miniscule levels of BPA exposure any oestrogen effect would be irrelevant.”

Professor Richard M Sharpe

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1 [Gender-bending chemical that 'makes girls as young as three aggressive and hyperactive'](#), *The Daily Mail*, 24 October 2011.

2 [BPA in womb linked to girls' behavioural problems](#), *The Independent*, 24 October 2011

3 [Gender bending chemical 'makes girls aggressive'](#), *The Daily Telegraph*, 24 October 2011

4 Braun, J et al. Impact of early-life bisphenol A exposure on behavior and executive function in children, *Pediatrics* (2011);**128**:873–882. DOI: [10.1542/peds.2011-1335](#)