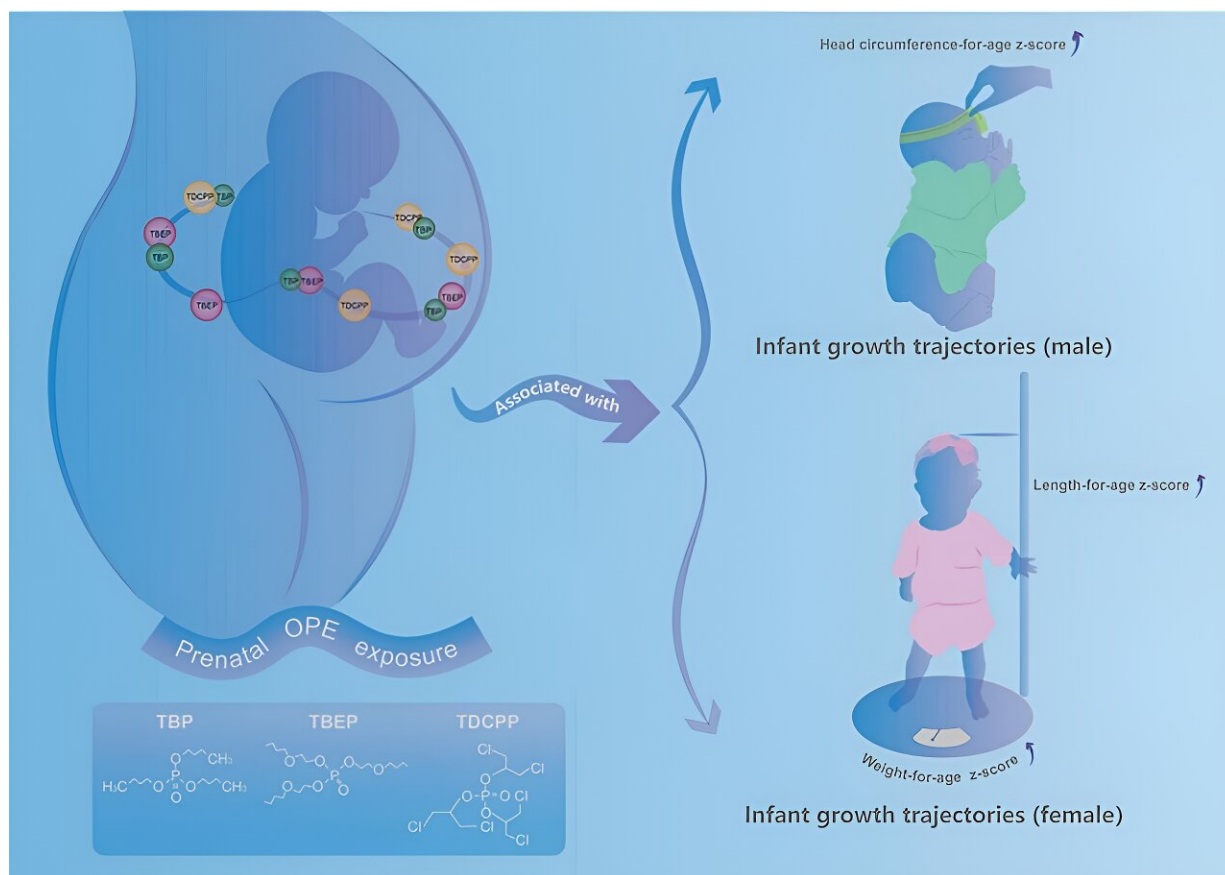


Early growth spurt: How prenatal chemical exposure shapes child development

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Credit: *Eco-Environment & Health* (2023). DOI: 10.1016/j.eehl.2023.07.003

Organophosphate esters, commonly used as substitutes for brominated flame retardants, are increasingly present in various environmental

media due to their use in consumer products. Humans are exposed to these chemicals through several pathways, and they can cross the placental barrier, possibly affecting the growth of offspring. The early years of life are crucial for long-term health and development, making it essential to understand the impact of these exposures.

A [study](#) published in *Eco-Environment & Health* offers new insights into how exposure to organophosphate esters (OPEs) before birth affects a child's growth in the first two years. Involving 804 mother–child pairs, the study highlights how OPEs differently impact [boys'](#) and girls' growth, an important area that hasn't been much studied before.

In the study, researchers explored how being exposed to organophosphate esters (OPEs)—chemicals often found in [consumer products](#)—before birth can affect a child's growth in their first two years. The study, involving 804 mother–child pairs, found distinct growth patterns in children based on their exposure to OPEs during pregnancy.

Boys with higher levels of tris(2-butoxyethyl) phosphate (TBEP) tended to have larger head sizes early on. Girls with more tris(2-chloro-1-(chloromethyl) ethyl) phosphate (TDCPP) showed increased growth in length and weight, especially noticeable at 9 months.

Advanced modeling was used to track these growth patterns, showing that higher OPE exposure in the womb led to faster growth rates in children. These findings remained strong even when considering factors like preterm births and breastfeeding. This study highlights how [early exposure](#) to environmental chemicals can significantly influence early growth and development, providing new insights into long-term health effects.

More information: Hang Wang et al, Sex-specific effects of

organophosphate ester exposure on child growth trajectories in the first two years, *Eco-Environment & Health* (2023). [DOI: 10.1016/j.eehl.2023.07.003](https://doi.org/10.1016/j.eehl.2023.07.003)

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