

In Brief: Bisphenol A causes sterility in roundworm

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Bisphenol A can cause sterility and embryo death in a laboratory roundworm, according to a study published yesterday in the journal *Proceedings of the National Academy of Sciences*.

Long debated to cause an array of ailments, including [heart disease](#), diabetes, and miscarriages, bisphenol A, found widely in plastics, lines most packaging for food and drink. A handful of states in the United States have banned the chemical in children's products, but nearly everyone is exposed to it.

Patrick Allard and Monica P. Colaiacovo tested the effects of bisphenol A on the cellular processes underlying the generation of sperm and eggs from their precursors in the roundworm *Caenorhabditis elegans*, an experimental model for molecular research.

The authors found that bisphenol A impairs certain DNA repair processes in sex cell precursors known to be essential for the formation of sperm and eggs. Further, exposure to bisphenol A damaged chromosomal integrity, triggered cells' damage surveillance systems, and led to [cell death](#).

Whereas controls appeared normal, the authors found frayed, fragmented, and aggregated chromosomes in egg cell precursors exposed to bisphenol A that ultimately led to embryo death and a drop in the worms' brood size.

The findings suggest a potential mechanism for the effect of [bisphenol A](#) on human reproduction, according to the authors.

More information: "Bisphenol A impairs the double-strand break repair machinery in the germline and causes chromosome abnormalities," by Patrick Allard and Monica P. Colaiacovo, *Proceedings of the National Academy of Sciences*. www.pnas.org/

Provided by Proceedings of the National Academy of Sciences

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