HEAL
HEALTH AND ENVIRONMENT ALLIANCE

SPOTLIGHT ON ENDOCRINE DISRUPTION

Perhaps the most important health effect of the many chemicals associated with plastics is endocrine disruption. Much of the activity of our bodies is controlled by hormones: small molecules produced by many organs and glands (the "endocrine system") and used to signal changes to other parts of the body. Patterns of growth, sexual development, metabolism, and other key parts of life are all controlled by our hormones.

Unfortunately, many of the common monomers and additives in common plastics have structures that are similar to hormones, and can sometimes trick the body, upsetting these critical processes. BPA, for example, mimics oestrogen, an important hormone related to women's sexual development and function. Similarly, some phthalates disrupt male sex hormones, leading to lower sperm counts or genital malformations.

Because the body uses only minuscule amounts of hormones to signal major changes—for example, the onset of puberty—even a very small concentration of an endocrine disruptor can have large impacts on the body. And it is no surprise that "alternative" substances with similar structures can also have similar endocrine disrupting effects. This is the case with bisphenol S (BPS), a very common "alternative" for BPA, which we now know to have similar endocrine toxicity.

1. J. R. Rochester and A. L. Bolden, "Bisphenol S and F: A Systematic Review and Comparison of the Hormonal Activity of Bisphenol A Substitutes," Environmental Health Perspectives, vol. 123, no. 7, pp. 643–650, Jul. 2015, doi: 10.1289/ehp.1408989.

ENDOCRINE DISRUPTORS

POTENTIAL HEALTH IMPACTS:

reproductive disorders, development dysfunction, behavioural disorders, thyroid disorders, low birth weight, diabetes, obesity, asthma, breast and prostate cancers

VISIT HEAL'S REPORT 'TURNING THE PLASTIC TIDE: THE CHEMICALS IN PLASTIC THAT PUT OUR HEALTH AT RISK' FOR MORE INFORMATION

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