

Endocrine-Disrupting Chemicals (EDCs)

e.g. Bisphenol A (BPA) and Phthalates

Background

EDCs are pervasive chemicals in the environment that can mimic or interfere with the activity of hormones in the body

Bisphenol A (BPA) is a stabilizer commonly found in food and beverage packaging, cash register receipts, dental sealants and many other common consumer products

Phthalates add flexibility to soft plastics in building materials and medical products; they carry fragrances in many personal care products (PCPs)

People are exposed through ingestion of food, dermal application of PCPs, and inhalation of vapors and dust particles from degraded materials

Health Risk

Pregnant women and children are the most vulnerable to the potential adverse health effects of EDCs

Many of these chemicals and/or metabolites cross the placenta where they can interfere with development

Children are prone to greater exposure through hand-to-mouth behaviors, greater food and water intake per unit body mass and higher ventilation rates

EDCs are associated with behavior changes, early puberty, obesity, male reproductive tract anomalies, allergies, certain autoimmune diseases, and certain cancers

Response

Consumer choices and personal behaviors can reduce exposure to these potentially harmful chemicals

Eat a variety of fresh and frozen foods and avoid heating food in plastic containers to reduce exposure from food packaging

Minimize the use of PCPs, especially those with fragrances; choose BPA- or phthalate-free products when possible

Wash hands frequently—especially before eating—to reduce EDC exposure from ingested dust, and wet mop and wet dust your home frequently

Instructions for User

A message map delivers three key messages on a particular topic (top row, in yellow), each with three supporting statements (column below each key message, in blue). The key messages provide succinct Background, Health Risk and Response to the topic.

A message map is intended to guide a discussion of health risks and responsive actions pertaining to the topic. It does not represent an exhaustive resource for information on the topic. The presenter is expected to tailor the depth and pacing of information delivery to the needs of the recipient. At the recipient's request, the presenter is expected to bring his/her expertise to the topic and link the discussion to other resources available to the recipient. Some suggested sources of further information are listed below.

Endocrine-Disrupting Chemicals (EDCs)

Pediatric Environmental Health Specialty Unit (PEHSU) Factsheets

Advisory about Phthalates and Bisphenol A, for Consumers
www.aeec.org/pehsu/documents/bpapatients%20factsheet03-2014.pdf

BPA Patient Factsheet—Spanish
www.aeec.org/pehsu/documents/patient_bpa_spanish_final.pdf

Advisory about Phthalates and BPA, for Health Professionals
www.aeec.org/pehsu/documents/bpahealthcareproviderfactsheet03-2014.pdf

Advisory about Phthalates and BPA, for Health Professionals—Spanish
www.aeec.org/pehsu/documents/physician_bpa_spanish_final.pdf

Risk communication is a science-based approach for communicating effectively and accurately to diverse audiences in situations that are high-concern, high-stress, emotionally charged, and/or highly controversial. Its purpose is to enhance knowledge and understanding, build trust and credibility, encourage constructive dialogue, produce appropriate levels of concern, and provide guidance on appropriate protective behavior and actions following a crisis incident. Although much about risk communication involves elements of common sense, its principles are supported by a considerable body of scientific research.

Covello V (Center for Risk Communication), Minamyer S, Clayton K (U.S. EPA National Homeland Security Research Center). Effective Risk and Crisis Communication During Water Security Emergencies. Reston, VA: U.S. EPA: March 2007. 72 p. Work Assignment: 4-94. Contract No.: 68-C-02-067.

NIEHS Factsheets: Endocrine Disruptors
www.niehs.nih.gov/health/materials/endocrine_disruptors_508.pdf

CDC National Biomonitoring Program FactSheet: Phthalates
www.cdc.gov/biomonitoring/phthalates_factsheet.html

CDC National Biomonitoring Program FactSheet: Bisphenol A (BPA)
www.cdc.gov/biomonitoring/BisphenolA_FactSheet.html

NIH ToxTown Factsheets: Phthalates
toxtown.nlm.nih.gov/text_version/chemicals.php?id=24

NIH ToxTown Factsheets: Bisphenol A (BPA)
toxtown.nlm.nih.gov/text_version/chemicals.php?id=69

Environmental Working Group Consumer Guides:
Dirty Dozen List of Endocrine Disruptors
www.ewg.org/research/dirty-dozen-list-endocrine-disruptors