

# THE FIVE W'S OF EDCs

FOR THE EUROPEAN UNION



Hormone Health  
NETWORK®  
*Keep your body in balance*

## WHAT are EDCs?



**Endocrine disrupting chemicals**, or EDCs, are substances in the environment (air, soil, or water supply), food and beverages, and manufactured products that can interfere with the normal functioning of our body's endocrine system. Many of their effects on humans are still unknown and require more research.

(The endocrine system controls the way your body develops and functions. It produces hormones that travel to all parts of your body to maintain your tissues and organs, and to participate in overall health.)

Visit [hormone.org](http://hormone.org) for more information.

## WHY should I be concerned about EDCs?

EDCs are found in everyday household products. As of October 2013, there are nearly 1,000 chemicals on The Endocrine Disruption Exchange (TEDX) list: [endocrinedisruption.org](http://endocrinedisruption.org).

These chemicals are found in:

- Contaminated soil, water and air
- Food contaminated through chemicals in the food chain
- Food packaging: lining of cans, plastic
- Workplace: industrial chemicals, pesticides, fungicides
- Common household items: plastics, household chemicals, toys, flame-retardant fabrics, cosmetics, medications, antibacterial soaps

### Plastics

Bisphenol A (BPA), phthalates



### Industrial solvents/lubricants

Polychlorinated biphenyls (PCBs), dioxins



### Pesticides

Dichlorodiphenyltrichloroethane (DDT), methoxychlor, chlorpyrifos



### Fungicides

Vinclozolin



### Herbicides

Atrazine



### Antibacterials

Triclosan



### Personal care products

Phthalates



### Textiles, clothing

Perfluorochemicals (PFCs)



### Children's products

Lead, phthalates, cadmium



See a synopsis of the Endocrine Society's Scientific Statement on EDCs at [hormone.org/edc](http://hormone.org/edc).

# WHERE

do EDCs  
impact  
my body?

More research is  
needed, but we  
know EDCs affect:

## Response to stress

- Neurological and behavioral changes
- Reduced ability to handle stress

## Metabolism

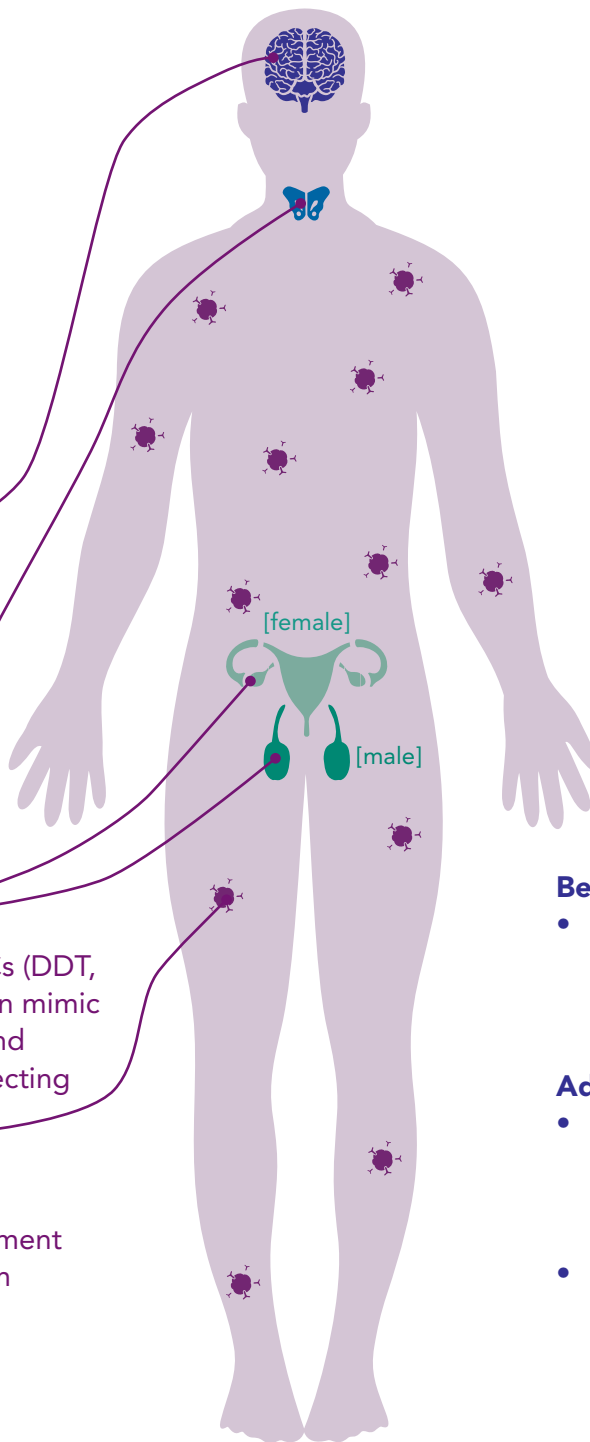
- Industrial chemicals can interfere with thyroid function

## Reproduction

- Virtually all classes of EDCs (DDT, BPA, phthalates, PCBs) can mimic or block effects of male and female sex hormones, affecting reproductive health

## Growth and development

- Neural development
- Disrupted sexual development
- Weakened immune system



# WHEN

do the  
effects  
take shape?

Endocrine, reproductive and/or neurological problems occur more frequently in humans with higher amounts of EDCs in their bodies. Health impact of low-level EDC exposure is still being researched.

## Before birth

- Interferes with fetal growth and development while the body's organs and tissues are still developing

## Adolescence, adulthood

- Affects sexual development, decreases fertility, causes diseases of male and female reproductive systems
- Increased risk of diabetes, obesity, and certain types of cancer

# WHO

regulates EDCs?

The European Union

- The European Parliament, European Commission, and Council of Ministers work together to make EU laws and regulations.
- EU legislation is aimed at phasing out endocrine disruptors in water, industrial chemicals, plant protection products and biocides.

- The European Commission is charged with developing science-based criteria for endocrine disruptors.
- Current testing methods are too limited and often miss endocrine disruptor effects.
- Researchers still are working to find out more about the relationship between the dose (low/high) of EDCs and how the body responds to it.

**You have questions. We have answers.**

The Hormone Health Network is your trusted source for endocrine patient education. Our free, online resources are available at [hormone.org](http://hormone.org).

Additional editing by Andrea Gore, PhD, University of Texas at Austin