



International Headquarters
8585 N. 76th Place
Milwaukee, WI USA 53223
Phone 414-355-2200
Fax 414-355-6065
www.EndometriosisAssn.org
Endo@EndometriosisAssn.org

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Endocrine-Disrupting Chemicals

Frequently Asked Questions

What is the endocrine system?

The body's endocrine system is also known as its hormone system. Hormones are potent biochemical messengers secreted by endocrine glands into the bloodstream to control and direct the function of specific organs.

The endocrine system comprises a complex system of glands—such as thyroid, pituitary, and adrenal glands, and ovaries—plus the hormones that regulate endocrine activities such as reproduction, growth, and metabolism.

What are endocrine disruptors?

Compounds that artificially affect the endocrine system or disrupt hormonal signaling are known as endocrine disruptors, or endocrine-disrupting chemicals. They have also been described as environmental hormones, environmental estrogens, xenoestrogens, environmental drugs or hormonally-active compounds.

Scientists have identified more than 70 chemicals that are believed to disrupt the endocrine system. Many of these are chlorinated chemicals such as dioxins, polychlorinated biphenyls (PCBs) and DDT, which often contaminate our food supply. Other endocrine disruptors include nonylphenol, phthalates and many other chemicals found in everyday items such as plastics, cosmetics, household cleaners, and pesticides.

What are the health effects of endocrine disruptors?

Research shows that endocrine disruptors have contaminated people and wildlife around the globe. Every creature is exposed, even the unborn.

Health effects range from minor or non-detectable to life threatening. A chemical that acts as a specific hormone might increase the cancer risk in hormone-responsive organs.

For example, exposure to estrogens and chemicals that act like estrogen can increase the risk of breast cancer.

Low sperm count, thyroid dysfunction, smaller penises and/or testicles, feminine behavior in males and masculine behavior in females are widespread effects in wildlife exposed to endocrine disruptors.

Endocrine disruptors that may have no noticeable effects on adults can cause birth defects and reproductive abnormalities in their children.

According to J.P. Myers, Ph.D, an expert on endocrine-disrupting chemicals, the effects can be as "small" as the loss of a few IQ points, or as large as a completely dysfunctional immune system.

How do endocrine disruptors work?

They can mimic naturally-produced hormones, such as estrogen, setting off the same chemical reactions as a naturally-produced hormone.

Alternately, they can block hormones by occupying a cell receptor, preventing naturally produced hormones from entering the cell and performing their function.

Some endocrine disruptors trigger reactions in the cell that would not normally be produced by a hormone. Dioxin is believed to act in this way. (For more information on dioxin, see the FAQ on endometriosis and dioxin.)

Is more information available?

Check out the following websites:

www.NotTooPretty.org

www.OurStolenFuture.org

www.environmentalhealthnews.org

Contact us to request copies of materials from the Endometriosis Association and our environmental health coalition partners.



Caring for the environment is a necessary part of self-care.