

## **HORMONE DECEPTION**

### **DEFINITIONS**

- **Hormone disruptor** or **Endocrine disruptor** are terms used broadly to label man-made chemicals or naturally-occurring substances like phytoestrogens that produce possible alterations of the endocrine system functions.
- **Xenohormones**—Xeno means “foreign,” and this term describes chemicals that are man-made and foreign to the body, and which mimic or block normal hormonal functions.
- **Xenoestrogen** refers to a xenohormone that is estrogen-like in its action.
- **Phytoestrogen** is a naturally-occurring estrogen-like compound from a plant. (Examples are black cohosh, wild yam and soy.) These exert a very weak estrogen-like effect in the body.

*NOTE: An important distinction to remember is that the human body has the enzymes to properly metabolize phytoestrogens. Xenoestrogens cannot be properly metabolized, and/or the metabolic by-products are more toxic than the original chemical.*

### **EFFECTS OF XENOHORMONES**

1. “Alien hormone messengers—in the form of man-made chemicals—have entered our environment in overwhelming amounts over the last fifty years.
2. “These synthetic chemicals enter our bodies through the food we eat, water we drink and bathe in, and the air we breathe.
3. “They ride freely through the blood stream, not subject to the rules and regulations that guide natural hormones, and bind with hormone receptors.
4. “They deliver a message to central headquarters. Responses take place, even if the orders are inappropriate. Hormone disruptors may:
  - a. Mimic the natural hormones in our bodies, such as estrogens
  - b. Antagonize (block) our natural hormones, such as androgens (male hormones), thyroid hormones, and progesterone
  - c. Alter the way in which natural hormones are produced, eliminated or metabolized
  - d. Modify the number of hormone receptors we have, and thus the amount of hormonal signaling in our bodies
  - e. Stimulate the release of hormones or other natural substances that affect the balance of our hormones in our bodies”\*

### **DISORDERS RELATED TO XENOHORMONE EXPOSURE**

- Increase in reproductive-site cancers in women and men (breast, uterine, ovarian, prostate, testicular)
- Decreased fertility in both sexes
- Decreased sperm count in males (human and animal)
- Low testosterone levels and abnormally small penis size
- Increased incidence of un-descended testicles
- Increasing PMS problems in women
- Estrogen dominance epidemic

\*Berkson, D. Lindsey, *Hormone Deception*, p20-22