

# *HORMONE DECEPTION*

by Dr. Lindsey Berkson

## INTRODUCTION

I remember first reading about endocrine-disrupting compounds (everyday pollutants in our air, food, and water) in an obscure scientific journal, and how they could be altering our reproductive milestones: when we can have babies, when we can't, and the ups and downs in between. Messing with Mother Nature's basic template to keep the human race going is a huge environmental and health crisis. So when I read about six-month-old babies in Puerto Rico having breast buds and menstruating at 7 to 9 years of age, I knew it was the tip of a public health galactic-sized iceberg. I felt destined to write this book.

I dug into the literature and started to amass a huge picture of change on the horizon for sentient beings. Dr. Louis J. Guillette from the University of Florida was showing that male alligators in polluted lakes were getting feminized. UC Berkley Professor Tyrone Haynes was collecting data back then with his post doc students around the country, and has since shown that frogs exposed to Atrazine become reproducibly homosexual. Atrazine is sprayed on Christmas trees and 50% of the non-organic corn crop. This very astute scientist suggests the endocrine-disrupting effects of this pesticide are contributing to gender and sexuality trend changes in humans, not just animals.

I started to attend Estrogen in the Environment Seminars, which over three decades morphed into e.hormone conferences. It was a coming together of top scientists from respected laboratories around the world, players in piecing together this growing phenomeon. I labored more than half a decade tying data together and sent this manuscript to Dr. John McLachlan, a major player in the unfolding drama of endocrine disruption: the environment getting in on the hormonal

signaling system of animals and humans and what it means for life on this planet.

Dr. McLachlan is famous throughout the world for his study of the role of pesticides, plastics, and metals that can enter inside the womb (our first environment), and breast milk (our second environment), as well as our unified planet (our global environment).

Dr. McLachlan was kind enough to write the foreword to this book and then called me, like the godfather, and said he wanted to give me an offer I couldn't refuse. Dr. McLachlan and Dr. William Toscano (then dean of Environmental Sciences at Tulane and now at the School of Public Health at the University of Washington) jointly proposed a free PhD for me in environmental science, based on what I had shown them I could research and put together. But I was just recovering from breast cancer (which later turned out to be due to endocrine disruption) and didn't realize I had more tumors growing inside me (ovarian, kidney, and parathyroid.) Instead of pursuing the PhD, I took their generous offer to be a distinguished estrogen scholar (I already had a doctorate from Western States University). But I got to hang, learn, and become friends with the movers and shakers of this developing field, which was birthing back in the mid-1990s.

Before the 1990s there was no official field of receptor physiology and endocrine disruption. Many fields came together eventually, such as reproductive endocrinology, toxicology, evolutionary biology, environmental endocrinology, and on and on. But back then, when I tried to sell my proposal for this manuscript, most editors felt it was trendy, not robustly profound, and perhaps only worthy of a short magazine article.

Finally Judith McCarthy from McGraw-Hill believed in me, and the topic. Judith was planning on getting pregnant and saw the urgency for protecting our children and understood the concept that the human race was in a race against an external set of pushy signaling monsters.

Ms. McCarthy and McGraw-Hill worked with me to publish this book—one of the first three breakthrough books on this topic that all came out within three months of each other (*Hormone Deception*, *Our Stolen Future*, and *Hormonal Chaos*.)

This book was the first to give a room-by-room tour of our homes, offices, and supermarket carts, showing readers how to reduce their exposure to potential endocrine-disrupting compounds. Why would we want to do that? At the time most scientists were not openly recommending avoidance, but in the privacy of their own homes they served their own kids organic milk and butter and didn't put plastic in the microwave. I found this out by interviewing these initial research players and I shared these interviews inside the book. Reducing exposure, not just through changing regulations and laws, but also by understanding where we have contact with these compounds, and how to get them out of us once we do, is the root of this unfolding story.

The human body physiologically works as a set of cells carrying out their particular duties, once they receive marching orders. These orders are like emails that tell all cells what to do. In essence, the body has a physiologic Internet system, a biological one that sends emails that tell cells how to interact within and between communities to keep you well. Most of these emails are delivered by hormones. So anything from outside the human body that can hijack these hormones is hijacking your body's major signaling system. This is especially critical during times of accelerated growth, such as in the womb, in an infant and child's brain, or during more frail periods, such as the elderly and their brain and cognition.

After *Hormone Deception* went to print, the double entendre that was unfolding in my own life came to light. I got into functional medicine because I battled so many health problems for so many years and allopathic medicine—our traditional Western medicine—couldn't fix me; all it could do was to recommend more drugs, and none of them

worked. I would research an answer, use my new-found protocol, and it would help for a while. I then got a master's degree in nutrition and helped others with what I had learned. I went on to become a functional-medicine doctor, and a formulator of hormone-balancing nutraceuticals. I helped many patients. But then another health issue would show up, or an old problem would return. I began to experience serious chronic conditions, many of them hormonal and scary, dangerous situations like cancers and other tumors. I went through 15 surgeries and the doctors couldn't give me an answer or see an end in sight.

As I researched and wrote this book, I began to see a pattern. I read all the research about the model compound—diethylstilbestrol—that was used to assess environmental pollutants to see if they acted like estrogens. Dr. Sir Edward Charles Dodds, the same British physician and chemist who first produced the plastic Bisphenol-A, another estrogen-like compound, invented diethylstilbestrol.

Diethylstilbestrol is the most powerful estrogen ever manufactured. The nickname for this polysyllabic term is DES. It was given to many millions of pregnant women for over 36 years, as a prescription, to stop potential miscarriages and even as a prenatal vitamin to supposedly make a healthy pregnancy even healthier.

Over the years, serious health consequences started to manifest. The moms themselves, who had been given the drug, were the ones who connected the rare vaginal cancer their daughters developed to the DES they had been given. It turned out that the pharmaceutical companies knew from early testing on rats that DES caused mammary tumors (which is what they call breast cancer in rodents), but it was only a few years ago that the first DES daughters got their litigation monies (I provided some of the science that helped make this connection by my 6-year research saga for this book but my own case was years too late.)

I read about the conditions caused in the offspring of those who had been exposed to this first man-made estrogenic compound. The stories about these DES daughters were the same as mine. I found myself saying, “I had this. And I had that. And OMG I had that, also. What is going on here?”

So while this book was going to press in 1999, I wrote away for my mother’s microfiche birth records. I got them, as fate would have it, the year before these old records were all shredded. And there in print was proof: my mother had been given DES, the most powerful hormone deceptor (a take off on this title) that had ever been created. And she got a walloping dose, by injection and by pink pill, all throughout her first trimester with me, the most vulnerable time for the development of issues that then show up throughout adulthood.

This story of hormone disruption by chemicals in a healthy mom’s womb (proven by pilot studies at Cedar Sinai to be anywhere from several to up to dozens of chemicals that all act like hormone mimics) is the new understanding of the *fetal origin of adult disease*. Much of who we are as adults, originates in the womb and, as we are now learning, even at conception. Hormone disruptors can disrupt at the level of the egg and the sperm, not just the womb, the breast (milk) and the developing brain.

I was, it turned out, a victim of the very condition I had written about! I had been drawn to write this book but I had no idea that down deep, physiologically and personally, I was what this book was about. I am only coming out publically with this story now.

I believe that endocrine disruption will change our nuclear family and prenatal medicine models. We will learn more and more about how these chemical exposures contribute to the rise of problems with our children’s brains (as mothers around the world are lamenting) from autism to Asperger’s Spectrum. We will have to go back to making babies as intended. We will plan our conceptions. We will go to detox

centers (and *hopefully* get insurance reimbursement) to clear these potentially hormone-disrupting chemicals out of the egg and sperm and bodies so that kids will have the chance to have better brains. There is no other route out if we are to see the next generations get healthier. For the first time, the next generation is living for shorter time, and less well. Hormone disruptors even affect diabetes (insulin is a hormone) and cognition (dysinsulinism adversely affects brain health).

When I first wrote this book it seemed like a doomsday scenario. Even my best friends went, “Yeeeeech! There’s so much to be frightened about!” Dr. Oz had me on his radio show (before his TV show) and he was concerned that I was making a mountain out of a molehill. But this topic has come center stage. Elizabeth Grossman wrote an article for *National Geographic*, which devoted an entire magazine to this topic, entitled *Chemical Exposure Linked to Billions in Health Care Costs*. Ms. Grossman’s subtitle says it all, “Researchers conclude they are 99 percent certain that hormone-altering chemicals are linked to attention problems, diabetes, other health problems.”

A 30-year plus follow-up of DES sons and daughters by the National Institute of Health tells the tale of humans being exposed to an additive soup of endocrine-disrupting chemicals. Other DES offspring like myself, when meticulously tracked, were found, when compared to non-DES populations, to have 50% more diabetes, 80% more hypertension, lots more obesity, breast cancer, infertility, external endometriosis, internal adenomyosis and on and on. This is a fate our polluted and chemically-laden planet is facing, if we don’t get informed and take action soon.

The information in this book— the definitions, cautions, and clarifications—is as applicable today as it was back when it was written. Changing information on menopause, which I researched heavily while writing *Safe Hormones, Smart Women* and another new book (launching soon), made it necessary to remove the menopause chapter, but all other information is up to date. This work takes you by the hand and, in the easy entertaining way it is written, introduces you to a world you cannot avoid and must learn to protect your families against.

As it turned out, it was a very personal story for me, too.

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