

LANDMARK REPORT LINKS BREAST CANCER TO EVERYDAY CHEMICALS¹

Emily Main[©]

Breast cancer now affects one in eight women in the U.S. every year, a 20 percent increase from 40 years ago. And despite all the pink ribbons, pink NFL sneakers, even pink KFC buckets, scientists aren't getting very close to discovering all the potential causes of the disease, or why it's getting more common. There are a few clear leads, of course, such as genetic predisposition and obesity, but more and more mainstream medical organizations are starting to look at environmental chemicals and other factors that could be influencing the ever-increasing rates of breast cancer.

"We now have sufficient data to be seriously concerned about the increased risk for many diseases, including breast cancer, that result from exposures to common environmental factors, especially those that interfere with the endocrine system," says Janet Gray, PhD, professor and director of the Program in Science, Technology & Society at Vassar College, and the author of a new report from the Breast Cancer Fund that explores the complicated link between chemicals in the environment and breast cancer. "We need to take this data seriously."

THE DETAILS: The Fund first published its State of the Evidence report in 2002, says Gray, and over the past decade it's seen a number of shifts in the amount of research being conducted on breast cancer and environmental exposures, particularly in the area of chemicals used in plastic, such as bisphenol A (BPA) and phthalates. "More broadly," Gray says, "more research is being done on the class of chemicals that BPA and phthalates are part of, endocrine-disrupting compounds." Studies have shown that early lifetime exposure to those endocrine disruptors, the report notes, is linked to higher rates of breast cancer later on because they mimic the way that estrogen functions in the body; breast cancer is associated with a woman's total exposure to estrogen.

The timing of exposures is critical, says Gray. There are certain periods of a girl's life during which exposure to problematic chemicals, whether it's BPA in plastics or the endocrine-disrupting pesticides used on our food, could cause serious damage. "Those periods of high risk are consistent with what we know about breast physiology," she says. Exposures to chemicals in the womb and immediately after birth are crucial, she says, because that's when breast tissue is just developing. Similarly, during adolescence and during pregnancy, girls and women are experiencing incredible growth of breast tissue, and their bodies are easily influenced by chemicals and pesticides that act like estrogen.

The influence doesn't stop at environmental chemicals and pesticides, either. "Radiation is the one unequivocally accepted environmental cause of breast cancer," Gray says. "We know from studies in adolescents who were treated with radiation for all sorts of diseases 40 to 50 years ago that they have an increased risk of breast cancer, especially when those exposures were during childhood and adolescence." The type of radiation she's referring to is dubbed low-dose radiation and comes from X-rays, CT scans, and even mammography equipment—the very screening equipment that is intended to detect breast cancer early. "There were two studies published last fall indicating that exposure to radiation from mammography over the long term

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is associated with an increased risk of breast cancer, especially among women with a genetic predisposition to the disease," she notes. "This is just a demonstration of the exploding use of CAT scans and other screening tools that are hypothesized to be leading to thousands of cases of cancer every year."

Regarding emerging research, Gray says that more attention is focusing on flame retardants in furniture and other household goods. "These chemicals are being associated with interfering with thyroid function," she says, adding that they're being found in extraordinarily high levels in people in California, where stringent laws require their use in everything from baby nursing pillows to car seats to mattresses. "Scientists are going to be really intensively studying the health effects, and included in the long lists of diseases with which they're associated will be breast cancer."

WHAT IT MEANS: We live in a toxic world. In the report, Gray writes that, of the 85,000 chemicals in use in the U.S. today, just 7 percent have been evaluated for safety. And included in that 7 percent are 216 chemicals that international regulatory agencies have associated with breast cancer. "No one study and no one chemical by itself is the critical linchpin in saying that environmental exposure to chemicals is associated with breast cancer," she says. "Our growing understanding is that these chemicals are interfering with hormones and altering breast development in ways that are very similar to what DES did in the 1950s and 60s," she adds, referring to diethylstilbestrol, a drug many women took to prevent miscarriages. It was later found to significantly increase breast cancer rates in the women, their daughters and, new research suggests, even their granddaughters.

That may sound disheartening, but it also puts some of the risk squarely in our hands. Nobody can avoid all of the dangerous chemicals in our environment, but there are steps you can take to shield yourself from some of the toxins you encounter every day.

Here are some easy ways to protect yourself and your family from the cancer-causing influences of modern chemistry:

Eat organic. Organic produce, meat, and dairy products are free of the growth hormones in milk, pharmaceuticals used on animals, and the pesticides on our food (such as the widely used pesticide atrazine) that have been linked to breast cancer.

Use glass or stainless steel. Both are free of BPA and other plastic additives (such as phthalates) that are known to interfere with the endocrine system and possibly cause cancer. BPA is used in all canned foods, so opt for jars or cartons like the type used for soy milk and boxed soup instead, and store leftovers in glass or stainless steel containers. And whatever you do, NEVER microwave any food in plastic.

Say "no" to vinyl. Shower curtains, flooring tiles, fake-leather bags and shoes, and children's backpacks can all be made with vinyl, which itself is made with phthalates to keep the products made from it soft and pliable.

Buy safer cosmetics. In the report, the Breast Cancer Fund identified nine commonly used chemicals that are believed to cause breast cancer, ranging from the phthalates used to keep nail polish flexible to placental extracts used in shampoos and other skin-care products to keep hair shiny and skin soft. Learn to make your own organic beauty products or consult the

Environmental Working Group's Skin Deep cosmetic-safety database for safer, over-the-counter goods.

Avoid all synthetic fragrances. Whether found in your cleaning products or your cosmetics, synthetic fragrances contain a whole host of potentially cancer-causing ingredients, including phthalates and "synthetic musks." Companies aren't required to tell you what chemicals they use to make a fragrance, so opt for totally fragrance-free products or those scented only with essential oils.

Use DIY cleaners and pesticides. An easy way to avoid unknown fragrances is to make your own cleaners and pesticides, both of which are often scented and both of which contain other non-fragrance ingredients linked to breast cancer. For tips, read our Nickel Pinchers tips on spring cleaning and DIY pest control.

Toss your crumbling sofa. Flame retardants can make up as much as 5 percent of the foam in your furniture. Once the foam starts to crumble, there's a higher chance that dangerous flame retardants can infiltrate your home. If you can't afford to replace the furniture, cover it with a tightly woven barrier to reduce your exposure.