

Title:**Our bodies and the legacy of “better living through chemistry”**

Every year the Centers for Disease Control samples the U.S. population to see how we're doing. The people who are selected represent a mix of Americans, varied by race, age, socio-economic status, and geography. Those who are selected are given a physical exam and asked a lot of questions about their lifestyles, their homes, their work, and their health behaviors. In the last several years, the CDC has added a new dimension to this effort, known as the National Health and Nutrition Exam Study. They started to send people's blood, urine and breast milk samples to the lab to be tested for chemicals that should never be in the human body – chemicals that are emitted from smoke stacks, chemicals that are in our drinking water and chemicals that are in our everyday products, all of which are finding their way into our bodies.

The results of this study tell a story. They tell us that the DDT, a pesticide associated with breast and other cancers that was banned in this country in 1972, is still found in most American's bodies. This is the tale of persistence. Many of the man-made chemicals that have been invented since the middle of the 20th century do not break down, but rather stay in tact and stay around – in our air, water, soil, food and in our bodies. Of the more than 80,000 chemicals that have been introduced into industry and commerce, virtually none of them were required to be tested for their potential human health effects.

Another story line is that chemicals can accumulate in our body over time, especially chemicals that are not easily excreted by the body. These chemicals can be stored in a variety of places in the human body – in our fatty tissues (many pesticides), in the hard part of our bones and teeth (lead), in our endometrial tissue (dioxins), and in our breasts (DDT). Sometimes these chemicals mobilize within our body. For example, during pregnancy and breast feeding, chemicals can be transferred to the fetus and infant, respectively.

The plot thickens when we begin to understand that many of these chemicals are associated with health risks. Some of these chemicals are associated with a range of health risks, not just one. There is at least one study about the potential toxic effects for over 80,000 chemicals that are in our environment and for many of these chemicals there are studies indicating a number of risks. These chemicals are not just being emitted by factories, but rather are chemicals that are commonly found in our personal care products, cleaning products, in toys, and even our pet supplies.

So what's the conclusion of this unfolding story? The conclusion includes a population that is now suffering from a variety of ailments at greater rates than in previous generations – higher rates of asthma, autism, certain childhood cancers, infertility, and obesity. The good news about breast cancer is that the most recent rates appear to be slowing and some of this change appears to be concurrent with women's choice to stop using hormone replacement therapies. The bad news is that there is still way too much breast cancer.

As a nurse, I look at my aging profession which is predominantly women and think about our collective risk for breast cancer – 12% of us are likely to be diagnosed with breast cancer. In addition to the personal crisis that breast cancer can befall an individual nurse, the collective loss of nurses due to illness will worsen the already critical shortage of nurses.

And what's the moral of this story? Our environmental and chemical policies have failed to protect us and we need to change this. We need policies that reduce and eliminate potentially toxic chemicals, including carcinogens, from our daily lives. And we need to make the healthiest choices possible when we are making decisions about what we eat, drink, and slather on our bodies. While the *Race for the Cure* is an amazing success story regarding its ability to raise funds for research, we also need a *Race for Prevention* to fund a campaign to get the carcinogens and other toxic chemicals out of our every day products, out of the air and water.

On the policy side, a new chemical reform act has been introduced in Congress that will help to decrease and/or eliminate some of the toxic chemicals that are being used in commerce. While the title of the bill is the Kids Safe Chemical Act, the truth is that we will all be better protected by its passage. This act calls for chemical manufacturers to test their products before they will be allowed to bring them to market – a policy that is now in place in Europe. For more information about this bill and what you can do, go to **<http://www.ewg.org/kidsafe>**.

Another way in which we can all make small but significant changes is by becoming informed consumers. There are a great many sources of information about being “green” which is often synonymous with least toxic. Here are a few that can help guide you to choosing less and non-toxic options:

- Cosmetics - <http://www.cosmeticsdatabase.com>
- Green cleaning - <http://www.grist.org/advice/possessions/2003/03/18/possessions-cleaning/>
And http://www.treehugger.com/files/2007/01/how_to_green_your_cleaning.php
- Pesticides – www.beyondpesticides.org
- Home and family - <http://healthychild.org/main/categories/products/>
- Green Seal - <http://www.greenseal.org/>
- Green buildings - <http://globalgreen.org/greenbuilding/>

And for general information on environmental health, check out ToxTown, presented by the National Library of Medicine: <http://toxtown.nlm.nih.gov/>

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