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Toxic chemicals in our Food System

What chemicals are in the food we eat?
Chemicals are used in every step of the process that puts food on our table: production, harvesting, processing, packing, transport, marketing and consumption and can be dangerous to our health. Some of these chemicals remain in our food and many persist in the environment and our bodies for decades to come.

- Preservatives are added to many processed foods including breads, cereals, and meat. Studies have found additives are a source of headaches, nausea, weakness and difficulty breathing. New research has shown that they may damage human nerve cells. We do not fully understand all of the long-term effects that additives could have on our health because synthetic additives are a relatively new invention.
- Certain fish contain toxic chemicals called Perchlorinated biphenyls (PCBs-which have been banned but remain in our environment and end up in our food system) or heavy metals such as mercury. PCBs can damage the developing brain and have been linked to behavioral disorders. Heavy metals like mercury may lower IQ and also cause visual or hearing impairment.
- Food packaged in plastic may contain phthalates or other harmful chemicals. As the chemicals can seep from the packaging into the food itself. Research has linked phthalates to behavioral disorders.

How can we avoid toxics in food?

We cannot avoid toxicants in our food entirely, but we can do several things to reduce our current and future exposure, including:

- **Choose organic, sustainable and less-toxic options.** You can lower your pesticide intake by avoiding the most contaminated fruits and vegetables: apples, strawberries, grapes, celery, peaches, spinach, sweet bell peppers, cucumbers, cherry tomatoes, and potatoes. When possible buy organic for this produce.
- **Choosing to buy food with less and safer packaging and few or no preservatives** is also a good first step in reducing exposure.
- **Support institutions, such as schools and hospitals, in purchasing more sustainable food.** With their large purchasing power, institutions can make a significant impact on the health of their community and the people they serve through the food they purchase. From kids and teachers in schools to patients, staff and visitors at hospitals, millions of people spend money and eat food in institutions every day. Encourage institutions to purchase more sustainable food and support them by ordering it when they do.
- **Demand national & local food, farm and chemicals policy changes.** We need to make a national investment in implementing effective agriculture, environmental and food policy that supports sustainable production practices on farms. Policy change is necessary to overhaul our current system. Individuals can support sustainable agricultural policy by contacting their legislators or their local PSR chapter.

What chemicals are in our bodies?

We don't have adequate data to know how many chemicals each of us is exposed to every day, or which ones we will carry in our bodies for the rest of our lives. We use roughly 1.2 billion pounds of pesticides per year in this country. Studies of chemical residues in the urine of the U.S. population have shown that most Americans have measurable amounts of pesticides in their bodies. Researchers have also found pesticides in amniotic fluid that surround the developing fetus.

A Washington University researcher tested urine samples from local children and found that some pesticides were five to seven times higher in children eating a conventional diet versus those eating an organic one.

Packaging also plays its role as it is likely that dietary ingestion is the reason 90% of people in the U.S. have measurable amounts of BPA in their urine.

The U.S. Centers for Disease Control and Prevention studies document that childhood exposure to phthalates is widespread. The CDC found that children aged 6-11 years old excrete higher concentrations of phthalate metabolites than older age groups. Possibly due to higher food consumption related to body weight, mouthing behavior, and/or playing near the ground.

Get involved! Anyone can become a member of Physicians for Social Responsibility. If you share our goal of protecting our health from the threat of toxic chemicals, please join today! Visit us at www.PSR.org

Toxic chemical	Sources of Exposure	Adverse Health Effects
Certain Pesticides & Fungicides	Food residues; contaminated soil; agricultural settings; water contamination	Damage to the developing brain; loss of IQ; respiratory disease; non-Hodgkins lymphoma, childhood leukemia; early breast cancer; asthma; autoimmune disease; thyroid disease
Preservatives: Propyl Gallate, BHA & BHT, Sodium Nitrite & Sodium Nitrate	Preservative-added food	Cancer
PCBs (banned substances)	Certain fish;	Damage to the developing brain; loss of IQ; behavioral disorders
BPA	Canned food; many plastic containers	Damage to the developing brain; behavioral disorders
Phthalates, adipates & organometals	Plastics; other forms of packaging	Behavioral disorders
Arsenic	Chicken, drinking water	Carcinogen; increased risk of cardiovascular disease and diabetes
Mercury	Fish; emissions from coal-powered electric plants	Damage to the developing brain; loss of IQ; behavioral disorders; lower overall function; visual & hearing impairment

Selected References

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