

## Chemicals linked to rising health problems

Toxic chemicals are linked to some cancers, birth defects and low birth weight, autism, and learning and behavioural disabilities. Many parts of the world today are seeing escalating health problems and more and more countries are linking this to the chemical legacy.

In Canada, for instance, the government has found that 12% of children there have asthma, possibly a 4-fold increase since the 1970s. Among young Canadian adults, aged 20-44, thyroid cancer has been rising at a rate of 4.2% in men and by 6.6% in women annually.

Non-Hodgkin's lymphoma has risen by 3.5 and 4.2%, respectively; lung cancer by 1.9%; brain cancer by 2% in women; and testicular cancer by 1.7% (The Ottawa Citizen, 11.12.06).

By the Ontario Medical Association's conservative tally, air pollution alone – ground-level ozone and fineparticle pollution – prematurely kills more than 5,800 people in the province every year, triggers more than 16,800 hospital admissions, 60,000 emergency room visits and more than 29 million minor illness days at a combined price tag of \$7.8 billion, estimated to increase to \$12.9 billion by 2026.

In the US, scientists have found that US residents have the world's highest levels of perfluorochemicals in their bodies. Perfluorochemicals are a family of manmade chemicals that have been used for decades to make products that resist heat, oil, stains, grease and water. Common uses include nonstick cookware, stain-resistant carpets and fabrics, as components of firefighting foam, and other industrial applications. It takes the body at least 8 years to rid itself of these chemicals.

The US is also seeing a rise in certain diseases and health problems. Over the past 50 years, as infectious childhood diseases like polio, smallpox, rheumatic fever, and diphtheria have largely been controlled, chronic conditions of less obvious origins have taken their place. Asthma, autism, attention deficit and hyperactivity disorders (ADD and ADHD), childhood brain cancer and acute lymphocytic leukaemia have all increased over the past 30 years.

In addition, 5-10% of American couples are infertile. Up to half of all pregnancies end in miscarriage. 3-5% of babies are born with birth defects.

Scientists cannot fully explain these increases, but early life exposure to environmental pollutants is a leading suspect.

### **And what will this lead to?**

In the article, "Rejecting the Toxic Plague: War on Plastic", author Jan Lundberg, says:

"Most North Americans urinate plastics. Sperm counts are at an historic per capita low. Cancer is an epidemic.

Birth deformities, sex organ abnormalities and eventual cancers are becoming more common – all traceable to certain Chemical exposures to the fetus. If the human race is not driven extinct by nuclear holocaust or complete distortion of the climate, it may happen through wonderful plastic and other petrochemicals."

## **Hormonal hazards**

In recent years, scientists and lawmakers have become more concerned about pollutants in the environment that appear to interfere with natural hormone systems.

Hormones play many critical roles in controlling growth and development in early life, such that any interference could have serious and irreversible effects on child development with consequences that may be felt throughout their later lives.

“There’s a lot of concern that a lot of chemicals to which we are exposed routinely, and without our knowledge, are interfering with the way hormones work,” said R. Thomas Zoeller, a professor of biology at the University of Massachusetts at Amherst.

Here are 2 of the most widely known examples, as cited in a *Washington Post* article (4.12.06):

*Bisphenol - A* (building block for plastics). Found in: Clear plastic bottles such as those used by hikers and infants, as well as resins used to line food and drink cans. Results of research: In animals, low doses have been linked to low sperm production, altered growth and behavioural changes. The chemical industry, however, says other studies show that the chemical is safe.

*Phthalates* - (chemical additives that increase plastic’s flexibility). Found in: Flexible vinyl toys, wallpaper and electronic devices. Results of research: In animals, these chemicals affect the functioning of male brains and sex organs. In humans, one recent study found a correlation between mothers’ exposure and subtle developmental changes in baby boys.

The chemical industry, however, says that there is no proof that human health is at risk.

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