

"It's only people with close ties to industries that have conflicts of interest that would make such preposterous claims," said Dr. David Carpenter of the University of New York at Albany School of Public Health. "To have a corporation like GE deny that animal research, including research done by their own laboratories proving that PCBs cause cancer in rats, is relevant to whether PCBs cause cancer in humans is ludicrous. Our whole system of study of disease is based on animal research." Research on laboratory animals, including GE's own studies, is irrefutable on the question of PCBs and cancer, and study after study in humans, including GE-sponsored studies, show that increased exposure to PCBs equals an increased risk of cancer and other health problems.

In its literature, GE often cites "50 human health studies" that show "there is no indication that these workers had a higher rate of cancer or other illnesses nor a different mortality rate." The larger scientific community draws different conclusions.

The ATSDR's Toxicological Profile for PCBs, published in 2000 and to date the most comprehensive review of PCB health studies available, references more than 1700 scholarly papers and studies, including more than 200 dealing specifically with how PCBs impact human health. The Agency's 700-page PCB profile reports the following:

Research conducted on 2,567 PCB-exposed workers in the 1980s in New York and Massachusetts showed an excess risk of liver-related cancer. A 1992 study of 3,588 PCB-exposed workers in Indiana showed increased risk of malignant melanoma. A 1987 study of 2,100 Italian PCB-exposed workers showed an increased risk of cancers of the digestive system. A 1997 study of 138,905 electric utility workers in the U.S. showed an increased risk of brain cancer.

The ATSDR reports that GE's 1999 study of 7,075 PCB-exposed workers conducted by Dr. Renate Kimbrough showed an increased risk of intestinal cancer in one group of workers. Though the study was highly criticized by epidemiological experts, GE has said this study shows that cancer rates among all workers were lower than the general population.

After reviewing these and other studies, the ATSDR concluded, "The human studies examining the cancer causing effects of PCBs often have methodological limitations. However, the evidence taken in totality, indicates a potential cancer causing effect."

GE also chooses to ignore evidence gathered on the non-cancer impacts of PCBs. Numerous independent non-cancer health studies show serious impacts to the human immune, reproductive, nervous and endocrine systems. Reviews by EPA and ATSDR of animal studies and human epidemiological studies report the following:

Nervous System

Studies of both animals and humans show a correlation between PCB-exposure and developmental deficits of the brain and nervous system in infants and young children, including visual recognition, short-term learning and IQ. Studies conducted on children of mothers who ate PCB-contaminated fish from the Great Lakes showed poorer performance on verbal IQ and reading comprehension tests into their grammar school years. ATSDR's review of growing evidence concerning neuro-developmental effects of PCBs on children concluded that "PCBs can be important contributors to subtle neurodevelopmental alterations in infants."

Endocrine System

Scientists believe the impacts of PCBs on the nervous and reproductive systems are linked to PCBs' proven ability to alter thyroid hormone levels in animals and humans—a process known as endocrine disruption. Thyroid hormone levels are critical for normal growth and development, including development of the nervous and reproductive systems in children.

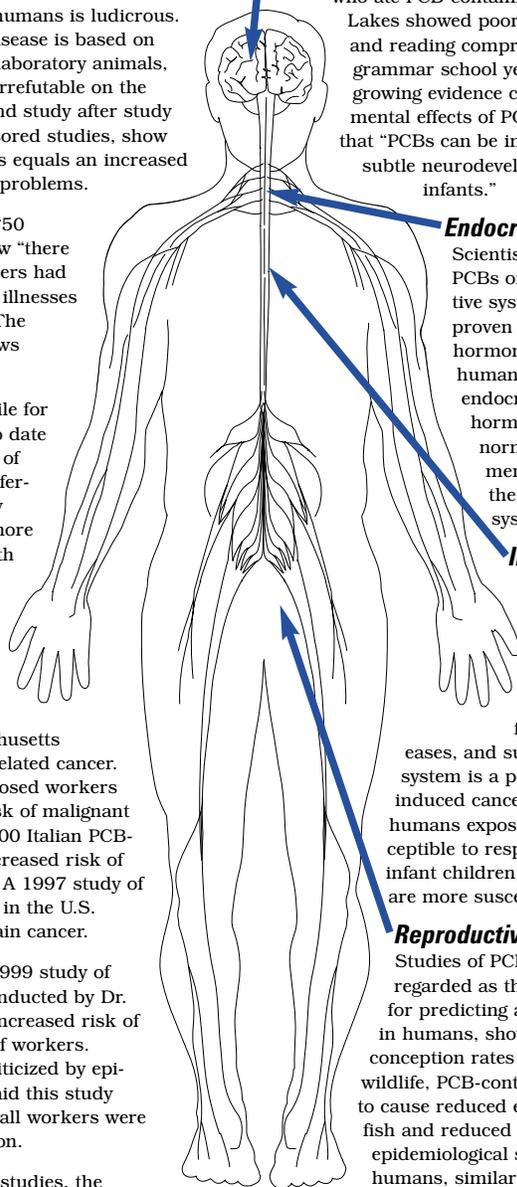
Immune System

Studies of both animals and humans show a correlation between PCB-exposure and weakened immune response. The immune system is critical for fighting infectious diseases, and suppression of the immune system is a possible mechanism for PCB-induced cancer. Studies have shown that humans exposed to PCBs are more susceptible to respiratory tract infections, and infant children of PCB-exposed mothers are more susceptible to ear infections.

Reproductive System

Studies of PCB-exposed Rhesus monkeys, regarded as the best laboratory species for predicting adverse reproductive effects in humans, show reduced birth weights, conception rates and live birth rates. In wildlife, PCB-contamination has been shown to cause reduced egg hatchability in birds and fish and reduced live births in mammals. In epidemiological studies of PCB-exposed humans, similar trends hold forth, including menstrual disturbances in women and effects on male fertility. PCB levels have also been observed in women with late miscarriages.

While these health effects don't have the "marquee" value of cancer, they represent a continuous effect on communities. As one government health expert said: "These are not hypothetical or theoretical effects, they are real effects, but they are not like cancer in that you're worried that you're going to die from them. Is it more important to have three extra cancer cases in the community or is it more important to have an ongoing health burden in a community?"



PCB Q&A

How were PCBs introduced to the environment in Rome, Floyd County and surrounding areas?

PCBs were released here in several ways. PCBs contaminated GE's Redmond Road property through spills during the 24 years in which they were used at the medium transformer plant. Once on the ground, rain and stormwater carried the contaminant to drainage ditches and off GE property into adjoining properties and into Little Dry Creek and Horseleg Creek which drain the GE property. By action of these streams, the PCBs were carried to the Oostanaula and Coosa rivers. Landfills at the GE site containing PCBs and other hazardous waste have contaminated groundwater, and PCBs have been detected in groundwater outside the GE property. Hundreds of GE employees also used Pyranol at their homes as a termite deterrent, dust suppresser and wood treatment. Additionally, an undetermined number of citizens used PCB-contaminated sludge from Rome's wastewater treatment plant as fertilizer for gardens and farms. Because of difficulties in locating those who engaged in these practices, the extent of PCB contamination in the area is still largely unknown.

Do PCBs move around in the environment?

Yes. PCBs attach readily to organic compounds and can easily be introduced into the food chain where they accumulate in the body fat of animals thus moving from one place to another. Animals at the top of the food chain

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