

The Effects of PCBs on Reproductive Health

“The bottom line is that there's no safe level of exposure in pregnancy, period.”

Dr. Maida P. Galvez, MD, MPH,
Director of the EPA Region 2 Pediatric Environmental Health Specialty Unit
Mt. Sinai Children’s Environmental Health Center
(April 13, 2011 NYC Council Hearing on PCBs.)

- FACT** – 772 NYC schools have old lighting fixtures that may be leaking toxic PCBs. The Environmental Protection Agency conducted inspections and found *“a prevalence of leaking PCB ballasts in the City’s school system.”*
- FACT** – Even minimal PCB exposure during or before pregnancy can have significant, detrimental impacts on newborns’ and children’s health.
- FACT** – More than **61,000** teachers and other Dept. of Education employees who work inside school buildings are women. More than **154,000** NYC high school students are girls.

PCB exposure damages women’s ability to bear healthy children.

- Developing babies in utero may be exposed to PCBs if pregnant mothers breathe PCB-contaminated air or eat or touch things that contain PCBs. PCBs are also readily passed from mother to the developing baby via the placenta and may concentrate in the mother's breast milk.
- Scientific literature has established a relationship between prenatal PCB exposure and lowered IQ scores; increased incidence of behavioral disorders; thyroid dysfunction; growth deficits, especially in girls; decreased attention, alertness, and responsiveness in infants; and reduced immune function.

PCBs stay in the body for years— young girls can suffer future impacts on reproductive health.

- PCBs bioaccumulate, meaning they build up in the human body over time and stay in the body for as long as decades.
- If a girl or woman exposed to PCBs is not currently pregnant but becomes pregnant in future years, the health of her child is at risk because of her previous exposure to PCBs.

THE EXPERTS AGREE

AT AN APRIL 13, 2011 NEW YORK CITY COUNCIL HEARING ON THE CITY'S PLAN TO TAKE TEN YEARS TO REMOVE OBSOLETE, LEAKY PCB LIGHTING FROM NYC SCHOOLS, INDEPENDENT SCIENTIFIC EXPERTS ALL AGREED THAT PCBs POSE ESPECIALLY SHARP RISKS TO WOMEN'S REPRODUCTIVE HEALTH AND SHOULD BE REMOVED FROM CLASSROOM ENVIRONMENTS AS QUICKLY AS POSSIBLE.

- PCBs have “effects on the reproductive system, causing reduced birth weights, stillbirths and unwanted abortions.”
- *Dr. John Tharkan, Professor of Chemical Engineering at Howard University*
- “The body of evidence is clear. PCB exposure during pregnancy has long lasting effects on developing baby's brains.”
- *Dr. Maida P. Galvez, MD, Director of Mt. Sinai Children's Environmental Health Center*
- PCBs “stay in the body for years, so if a woman is teaching in a PCB environment and gets pregnant three years later she is still going to have maintained some of those PCBs.”
- *Dr. David O. Carpenter, MD, Director of SUNY Albany Institute for Health and the Environment*
- “It's not just pregnant woman from the toxicology that I'm familiar with it's also women of childbearing age. It becomes a bigger reproductive health issue.”
- *Jack Caravanos, DrPH, CIH, Associate Professor of Environmental Health, Hunter College.*
- **“If there is a leaky light fixture I would not want a pregnant woman in that classroom; I would want something to be done immediately.”**
- *Dr. Maida P. Galvez, MD, Director of Mt. Sinai Children's Environmental Health Center*

THE COMMUNITY AGREES

PARENTS, SCHOOL EMPLOYEES, ELECTED OFFICIALS, AND PROGRESSIVE ORGANIZATIONS ARE DEMANDING THAT THE CITY REPLACE OLD PCB LIGHTING WITHIN TWO YEARS TO PROTECT ALL CHILDREN AND TO REDUCE RISKS TO THE REPRODUCTIVE HEALTH OF WOMEN AND GIRLS IN NYC SCHOOLS.

Selected Scientific Articles on PCBs and Reproductive Health

- Low-level prenatal exposure to organochlorine compounds including PCBs is associated with an increase in ADHD-like behaviors in children (Sagiv, 2010).
- Children who had prenatal exposure to PCBs had higher incidence of behavioral disorders and lower IQ scores when they were 9 years old (Stewart, 2008).
- Associations were reported between blood serum PCB concentrations at levels similar to the US general population and increased odds of failed implantation among women undergoing *in vitro* fertilization (Meeker, 2011).
- Babies, in this case Dutch newborns, with higher prenatal PCB exposures had reduced immune response after vaccination for measles, mumps and rubella (Weisglas-Kuperus, 2000).
- Even low level prenatal exposure to PCBs may affect thyroid hormone homeostasis (Chevrier, 2007).
- Prenatal exposure to PCBs may affect growth, especially in girls (Lamb, 2006).
- Growth deficits were seen among infants born in eastern Slovakia, where a chemical manufacturing plant produced PCBs until 1985 (Hertz-Picciotto, 2003)
- Lower thymic index, which is an estimate of the volume of the thymus, an organ that plays a role in the differentiation and maturation of t-lymphocytes (T-cells, a critical part of the immune system), was observed in infants born near a PCB producing manufacturing plant (Park, 2008).
- Associations were reported between prenatal PCB and p,p-DDE exposures and poor attention in early infancy, including alertness, quality of alert responsiveness, and cost of attention (Sagiv, 2008).