



MOUNT SINAI
SCHOOL OF
MEDICINE

MOUNT SINAI – IRVING J. SELIKOFF CENTER FOR OCCUPATIONAL & ENVIRONMENTAL MEDICINE

Medical Treatment for a PCB Exposure Incident

Workers who experience a one-time sudden exposure to any chemical substance at work, should:

- Gather as much information as you can about the type and amount of exposure, including labels, Material Safety Data Sheets (MSDS), and the medical emergency phone number on the MSDS.
- If you are feeling ill, seek medical attention at an emergency room immediately.
- Contact Poison Control at 1-800-222-1222 for advice about treatment and follow their recommendations.
- Once the urgent situation has been taken care of, you may contact the nearest occupational health clinic in New York State (<http://www.health.state.ny.us/environmental/workplace/clinic.htm>) or in the country (<http://www.aoc.org/directory.htm>) for recommendations and follow-up.
- This fact sheet is not a substitute for medical care. The purpose is to direct the exposed worker to the proper medical provider.
- Report any exposure to your employer immediately. Complete an incident or exposure form. If none is available, write a memo informing them of the exposure incident (date, time, location, what you were doing in the area, and for how long). Keep copies and insist that documents are placed in your personnel files.

How can I be exposed to PCBs?

PCBs, or polychlorinated biphenyls, are in common building materials including paint, old fluorescent light ballasts, and caulking. They are also found in old industrial equipment, such as transformers found on utility poles or pad-mounted. If these materials are directly disturbed, they can get into the air, onto surfaces, or onto your skin. They can also get into the air by simply evaporating from the PCB containing material. They can stay in the air or stick to dust. They can also condense again, and attach onto new surfaces, thus creating a vicious cycle of evaporation-condensation-evaporation. At low levels, PCB contamination will not be visible or have an odor.

PCBs can get into your body by either breathing them, through skin contact (they can be absorbed into your body through the skin), or by ingesting them. The manufacture of PCBs was banned in 1977, but PCBs persist in the environment for decades. PCBs are found in most people's bodies. An important source of exposure is food, especially contaminated fish, meat or poultry.

What are the symptoms and illnesses caused by overexposure?

Usually there are no immediate symptoms caused by exposure to PCBs, unless it is a massive exposure, such as falling in a tank containing PCBs or ingesting a significant amount of PCBs. In these cases, a worker may experience nausea, vomiting, respiratory irritation (sniffles, cough) and skin irritation (redness). Longer, typically low-level exposures at the work place, may result in workers developing a type of acne over weeks or months, called chloracne. Darkening of the skin or nails may also occur. PCB exposure may also cause abnormal liver tests or an enlarged liver in some individuals.

PCBs can cause reproductive effects and hormonal effects, and, in exposed children, developmental, immunological and neurological effects. Long term health effects of overexposure may include cancer, although this has not been confirmed in all the studies of individuals exposed to PCBs.

Do I need immediate medical care?

Exposure to PCBs in the amounts commonly found in the workplace or in buildings would not require immediate medical care, because there are usually no immediate effects. However, if you feel ill, you should seek medical care, as appropriate, because your symptoms might be from something else. Massive exposures, such as the ones described above, do require more urgent medical attention.

Do I need to see a doctor and what kind?

Smaller exposures, such as to contaminated indoor air or surfaces from PCBs in building materials; a one-time disturbance of PCB containing materials, such as caulking or a leaking light ballast; or a few minutes of exposure to smoke from a burning light ballast, would usually not require medical attention. These exposures are very limited and not expected to result in medical consequences. If the exposure repeats over time for long periods (years), medical examination is warranted to assess long-term effects, as described for larger exposures, below.

Larger exposures, such as directly touching PCB contaminated oils or paint, or breathing dust from disturbing PCB containing material on a continuous basis over months, require a doctor’s visit. If such exposures occur at work, you should see an occupational medicine specialist. If you were exposed outside of work, you should see your primary care physician first, and you may be referred to a specialist in occupational and environmental medicine or a medical toxicologist if your doctor is concerned about your exposure. The specialist physician would do a thorough examination and pay special attention to your skin and liver.

Do I need certain tests and how quickly?

Liver function tests should be done in case of massive exposures to see if there has been a toxic effect to the liver. However, a positive test result could be from another cause. And a negative result does not rule out significant exposure. Doctors do not recommend testing of breast milk under most exposure circumstances because, even if there are elevated levels in breast milk, they usually recommend breastfeeding.

Are there tests that would prove I have recently been exposed?

Unless you were exposed to massive amounts of PCBs, testing would not be useful. There are no tests that prove you were recently exposed to PCB. High blood levels (measured in serum) or fat tissue levels may indicate long term exposure levels to PCB, but the source of these exposures would not be identified by these tests (elevated levels could be from food, for example). The levels would not be used to recommend treatment. You could be recently exposed and still have low levels of PCB in these tests. There are no standardized tests or agreed upon reference levels to which results can be compared, especially because there is much regional variation in PCB exposure due to the type of food that is consumed in the area.

What is the treatment for acute exposures?

If PCBs splash in the eyes, irrigate with tepid water immediately for at least 15 minutes, and follow with an eye exam if symptoms exist. Remove contaminated clothing and discard properly. Gently wash affected skin with soap and warm water for at least 15 minutes.

In the rare event that PCB containing substances are ingested, immediately seek care at a medical facility. Oral activated charcoal will likely be administered, but has not been proven beneficial.

What follow-up is needed?

Exposed individuals should have periodic follow-up exams, with special attention to the skin and liver. Routine blood tests to measure PCB levels are not recommended.

How does this information apply to children and others in the community?

For PCBs, the above information is generally applicable to persons of all ages. For children's health you can check with your local Pediatric Environmental Health Specialty Unit at <http://aoec.org/PEHSU/index.html>. More information for pregnant women can be obtained from the Organization of Teratology Information (OTIS) at www.otispregnancy.org. A good factsheet on PCBs in the schools is available from the New York City Department of Health and Mental Hygiene at <http://www.nyc.gov/html/doh/html/epi/pcb.shtml>.

Suggested further readings: <http://www.atsdr.cdc.gov/csem/csem.asp?csem=22&po=0>

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