Pesticides in Our Homes and Schools

What are pesticides?

Pesticides are toxic chemicals used to kill insects (insecticides), weeds (herbicides), rodents (rodenticides), fungus (fungicides) and other pests. Pesticide products are formulations of a number of different toxic materials, including active and "inert" ingredients, as well as contaminants and impurities. In addition, pesticides, when subject to various environmental conditions, break down into other materials known as metabolites.

What are the symptoms of pesticide poisoning?

The symptoms of pesticide poisoning include headaches, nausea, rashes, aching joints, disorientation, respiratory problems and lack of concentration and may appear even when a pesticide is applied according to label directions.

Is my child at risk from pesticides used at home or school?

Yes. The Environmental Protection Agency (EPA), Centers for Disease Control and Prevention (CDC), National Academy of Sciences, and American Public Health Association and others have voiced concerns about the danger that pesticides pose to children. Because they are poisons, low levels of pesticide exposure can lead to and exacerbate neurological problems, learning disabilities, asthma, cancer, aggressive behavior, immune system dysfunction and other adverse health effects.

Of the 40 commonly used pesticides inside homes and schools, 28 may cause cancer, 26 can affect reproduction, 26 are nervous system poisons, 14 can affect the endocrine system, and 13 can cause birth defects. A study of organophosphate (OP) insecticides found they cause genetic damage linked to neurological disorders like attention deficit hyperactivity disorder (ADHD) and Parkinson's disease. Several pesticides, such as pyrethrins and pyrethroids, OPs and carbamates, may cause or exacerbate asthma symptoms. Studies show that children living in households where pesticides are used suffer elevated rates of leukemia, brain cancer, and soft tissue sarcoma.

Of the 30 commonly used lawn pesticides, 17 may cause cancer, 13 can cause birth defects, 21 can affect reproduction, 11 can affect the endocrine system, and 15 are nervous system poisons. Several studies link non-Hodgkin's lymphoma to exposure to the herbicides 2,4-D, glyphosate, and MCPP. The most popular lawn chemical, 2,4-D, is an endocrine disruptor with health risks ranging from changes in estrogen and testosterone levels, thyroid problems, prostate cancer and reproductive abnormalities. The commonly used lawn chemical glyphosate (RoundUp) is also linked to ADHD and may cause genetic damage to DNA, even at very low concentration levels.

How is my child exposed to pesticides at school?

Pesticide exposure can occur from applications made before children enter a building or while they are present. Exposure occurs from breathing contaminated air or touching contaminated surfaces. Residues can remain for days and sometimes break down to other dangerous compounds. On school playing fields and lawns, dermal exposure can occur while playing sports or sitting in the grass to watch a game. Inhalation exposure occurs when players and spectators breathe in dust as well as volatilizing pesticide residues. Ingestion can occur in small children due to frequent hand to mouth movement.

Don't pesticides go away after they "dry"?

No. Research shows that pesticide residues linger and threaten public health. Numerous studies find pesticides persist in dust and air in significant concentrations for months after they are applied, disproving the popular myth that they are not long lasting. A 1996 study finds that 2,4-D can be tracked indoors from lawns, leaving residues in the home. EPA research finds at least five pesticides in indoor air, at levels often 10 times greater than outdoors. Another EPA study finds residues of pesticides in and around structures even when there had been no known use on the premises.

Are children more sensitive to pesticides than adults?

Yes. Children face higher risks than adults from pesticide exposure due to their small size, their tendency to place their hands close to their face or in their mouth, the activities they engage in on or near the ground, their greater intake of air and food relative to body weight, their developing organ systems, and other unique characteristics. In addition, the probability of an effect such as cancer, which requires a period of time to develop after exposure, is enhanced if exposure occurs early in life.

Are children actually poisoned by pesticides at schools?

Student and staff poisoning at schools is not uncommon. The Government Accountability Office (GAO) in 2000 documented over 2,300 reported pesticide poisonings in schools between 1993 and 1996, and a 2005 study by researchers at the National Institute for Occupational Safety and Health (NIOSH) analyzed 2,593 poisonings from 1998 to 2002. Because most symptoms of pesticide exposure are common in children, pesticide related illness is likely to be more prevalent than what is reported.

Why do pesticide companies say their products are "safe"?

EPA considers such safety claims to be false and misleading. EPA states that, "Pesticides can cause harm to humans, animals, or the environment because they are designed to kill or otherwise adversely affect living organisms."

Most pesticide products have never been fully tested for all potential health effects. Pesticides linked to health effects can still be registered by EPA. Due to the numerous pesticides on the market, lack of disclosure requirements, insufficient data requirements and inadequate testing, it is impossible to accurately estimate the hazards of pesticides, much less lifetime exposure or risk. There is no way to predict the impacts on children based on toxicity testing in adult lab animals, as required by EPA. Often pesticides are registered by EPA, only to be later pulled off the market because of unacceptably high health risks (chlorpyrifos, diazinon, lindane, DDT and others).

How do I manage pests without pesticides?

Some would like you to think that if we stop using toxic pesticides, our homes and schools would be overrun by pests. This is simply not true. Examples from around the country show that pest problems can be effectively managed without toxic pesticides. The most effective and safest solution to protect children from pests and pesticides is to use integrated pest management (IPM), based on prevention and management strategies that include habitat modification, sealing and structural repairs, sanitation, biological controls, organic management of outdoor spaces and least-toxic pesticides only as a last resort. When pesticides are used in extremely rare circumstances, limiting when and what pesticides are applied is important to reduce pesticide exposure.

Do I have the right-to-know when pesticides are used?

While there is no federal law that requires schools or homeowners to notify others of a pesticide application, more than 20 states have adopted such provisions. Notification of pesticide applications provides school occupants and the public with the opportunity to take precautions to avoid exposure to hazardous pesticides.

What can I do to protect my child at home and school?

- Use pest management methods at home that do not rely on toxic pesticides.
- Ask the school to stop using toxic pesticides and adopt effective alternatives.
- While the alternatives are being put in place, ask the school to notify you when pesticides are to be used and ask for a factsheet on the pesticide.
- Collect practical information on pest prevention and alternatives.
- Contact Beyond Pesticides for more information at info@beyondpesticides.org or 202-543-5450 or see www.beyondpesticides.org.

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Are They Dangerous to Our Children?

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