



OLR RESEARCH REPORT

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PESTICIDE EXPOSURE IN CHILDREN

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You asked for a summary of the American Academy of Pediatrics (AAP) recent policy statement on pesticide exposure in children, with an emphasis on how the statement addresses exposure in school settings and related recommendations.

SUMMARY

The policy statement presents the AAP position on pesticides and accompanying technical report published in the December 2012 issue of *Pediatrics*, the official journal of the AAP. Among other things, the statement (1) addresses acute and chronic exposure and approaches to exposure prevention, and (2) recommends government regulation to help reduce pesticide exposure. This report focuses on the recommendations for governmental action that are the most relevant for school settings, such as reducing exposure, taking safety steps, and advancing less toxic pesticide alternatives.

BACKGROUND ON EXPOSURE

Pesticides represent a large group of products designed to kill or harm living organisms from insects to rodents to unwanted plants. Children encounter pesticides daily and have unique susceptibilities to their potential toxicity. “Beyond acute poisoning, the influences of low-level exposures on child health are of increasing concern,” the statement says.

“Epidemiologic evidence demonstrates associations between early life exposure to pesticides and pediatric cancers, decreased cognitive function, and behavioral problems.”

Children are exposed to pesticides in air, food, dust, and soil, and through home and public lawn or garden application, household insecticide use, application to pets, and agricultural product residues. For many children diet may be the biggest source. Pesticide spray drift is significant for residences near treated crops, and heavy use of pesticides can occur due to residential or public pest control in urban settings.

The statement, in part, reads:

Multiple case-control studies and evidence reviews support a role for insecticides in risk of brain tumors and acute lymphocytic leukemia. Prospective contemporary birth cohort studies in the United States link early-life exposure to organophosphate insecticides with reductions in IQ and abnormal behaviors associated with attention-deficit/hyperactivity disorder and autism.

APPROACHES TO EXPOSURE PREVENTION

The AAP statement addresses a variety of approaches to exposure prevention.

It considers integrated pest management (IPM) a useful approach to pest control designed to minimize, and in some cases replace, the use of pesticide chemicals while still controlling pests. IPM has been implemented (1) in agriculture and (2) to address weeds and pest control in residential settings and schools, commercial structures, lawn and turf, and community gardens. (The Environmental Protection Agency describes [IPM](#) as a program that takes advantage of all pest management strategies, including the judicious and careful use of pesticides when necessary. A school IPM program also uses common sense strategies to reduce sources of food, water, and shelter for pests in school buildings and grounds.)

Other state and local approaches include posting warning signs of pesticide use, spray buffer zones at schools, or restricting specific types of pesticide products at schools.

REGULATORY RECOMMENDATIONS

The statement recommends considering the wide range of consequences of pesticide use on children and their families when developing new public policy or revising existing policy. The statement includes three overarching principles that are central to the more specific recommendations:

1. pesticide exposures are common and cause both acute and chronic effects;
2. pediatricians need to be knowledgeable about pesticide identification, counseling, and management; and
3. government action is needed to improve pesticide safety.

The following are the governmental regulatory recommendations most relevant to school settings:

1. **Exposure reduction.** Set a goal to reduce overall exposure. Promote application methods and practices that minimize children's exposure, such as using bait stations and gels, and advising against overuse of pesticides used to treat lice (pediculicides). Promote education regarding proper storage of pesticides.
2. **Safety.** Continue to evaluate safety. Enforce community right-to-know procedures when pesticide spraying occurs in public areas. Develop, strengthen, and enforce standards of removal of products for home or child use.
3. **Advance less toxic pesticide alternatives.** Support research to expand and improve IPM in agricultural and non-agricultural pest control.

The policy statement also includes recommendations regarding pesticide marketing, labeling, poisoning reporting, exportation, research, and health provider education and support that is not included in this report.

Link to full policy statement in *Pediatrics*:

<http://pediatrics.aappublications.org/content/130/6/e1757>

JM:ro