

ASTHMA, PESTS, AND PESTICIDES

A FACTSHEET FROM MIDWEST PESTICIDE ACTION CENTER

Asthma

Asthma is a long-term, inflammatory disease of the lung airways. Symptoms of asthma include wheezing, coughing, feeling of tightness in the chest, difficulty breathing, and itchy neck, throat and ears.¹

Why Be Concerned?

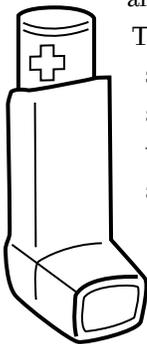
Approximately 23 million Americans have asthma and it is the most common chronic childhood disease – afflicting 7 million children nationally.² A bad asthma attack can be fatal. In urban areas around the country, death rates from asthma are disproportionately high. In fact, the asthma death rate in Chicago has more than doubled in the past 20 years, particularly for African American and Puerto Rican children.³

Asthma Triggers

Asthma attacks are usually caused by inflammation and tightening in the airways of the lungs.

This is often caused by exposure to certain substances called triggers. Triggers are either allergens or irritants. Allergens are substances that cause an allergic reaction such as pollen, animal dander, or mold. Irritants can include pesticides, perfume, and cleaning products.

Repeated exposure to certain substances (such as mouse allergens) can make people more likely to develop allergic reactions.



“Pests” are unwanted creatures that invade our homes. Most often this means rats, mice, and cockroaches. Once they’ve gotten inside, each of these pests can contribute to an asthma attack – in fact, research is going on to determine whether or not they cause asthma to develop.

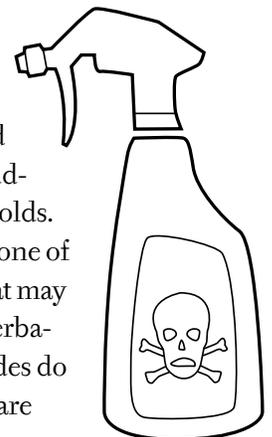
A major factor contributing to asthma in urban-dwelling children has been found to be exposure to cockroach allergens.^{4,5} Cockroaches shed skin scales, leave behind

waste products, and, when cockroaches are dead, their bodies turn into a dust – all things that can trigger an asthma attack. To make matters worse, the pesticide sprays, bombs, and fumigants that are used to control roaches can also cause an attack.^{6,7} Rodents can trigger asthma as well. Both rats and mice shed dead skin cells, called dander, that can trigger attacks if someone with asthma breathes them in. Waste products that rodents leave behind can also cause an attack.

Awareness of asthma triggers can help you take steps to reduce them, preventing asthma symptoms or attacks.

Pesticides and Human Health

Pesticides are substances designed to kill, control or repel pests, including insects, rodents, weeds, and molds. Pesticides are listed by the EPA as one of four environmental pollutants that may influence the induction and exacerbation of asthma symptoms.¹ Pesticides do this by irritating the lungs as they are breathed in.



If used irresponsibly they can result in serious injury or even death, but even following label instructions doesn't guarantee safety. Many commonly-used pesticides have been linked to cancer, birth defects, reproductive disorders, and neurological, kidney and liver damage in laboratory animals. A growing body of evidence indicates that children are especially vulnerable. One study found a two to six-fold increase in childhood brain cancer in homes where certain pesticides were used.⁸ Long-term exposure to low doses of pesticide mixtures has also been linked to increased aggression and damage to immune systems in laboratory animals.⁹ Clearly, there's a need for an alternative for people with asthma - as well as everyone else!

What Can You Do?

Integrated Pest Management (IPM) is the best approach to controlling pests like cockroaches and rodents, because it reduces the amount of pests and the pesticides used to control it.

Integrated Pest Management: A Safe, Effective Alternative

Integrated Pest Management is a safe, effective, economical alternative to routine pesticide use. IPM emphasizes prevention and uses knowledge of the pest to identify effective non-chemical methods to control it. As a final resort, less toxic pesticides can be used in tandem with the nonchemical methods to ensure a high level of control. Because IPM focuses on the root causes of pest problems, it is more effective than conventional pest control.

IPM Methods Include:

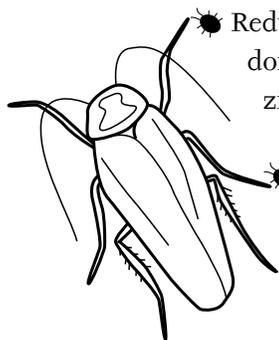
Monitoring

Sticky traps or glue boards (traps with adhesives that are set out to catch pests), inspections and record keeping of pest sightings helps pinpoint pest problems. The goal is to find out where pests are getting in and where they are nesting, then recording and analyzing that information to choose the best control method.

Control Methods

These methods are at the heart of an IPM program:

- Place steel wool or copper mesh in holes, cracks, or crevices, then caulk or spackle to seal it in. The goal is to prevent pest access, particularly where pipes come in through the wall.



- Reduce clutter - get rid of the things you don't need such as newspapers, magazines, etc.

- Store food in Tupperware containers to prevent pests from eating it, and use chip clips to prevent food crumbs from spilling.

- Keep dirty dishes in soapy water so that pests can't eat the scraps.

- Clean thoroughly - pay particular attention to the floor under the oven and refrigerator, where food crumbs may be collecting.

Chemical controls: Less Toxic Pesticides

After using all the above methods, you may need to consider using a less toxic pesticide, available as baits for cockroaches, mice and rats. Check your local hardware store for baits that are containerized or in a gel form to prevent people from coming into contact with them.

For more information on IPM, contact Midwest Pesticide Action Center at 773-878-7378.

Sources

1. U.S. EPA, Office of Research and Development's Asthma Research Strategy. September 2002.
2. U.S. Department of Health and Human Services Center for Disease Control and Prevention, Summary Health Statistics for U.S. Children and Adults: National Health Survey, 2008. Vital and Health Statistics Series 10, Number 242 and 244, pg. 5, 20 December 2009.
3. Respiratory Health Association of Metropolitan Chicago. Chicago Asthma Epidemic: The Status of Asthma in Chicago Fact Sheet. August 2007.
4. U.S. Department of Health and Human Services; National Institutes of Health National Institute of Allergy and Infectious Disease. Asthma: A Concern for Minority Populations. Jan. 1997.
5. Wang, J., Visness, C. M., Calatroni, A., Gergen, P. J., Mitchell, H. E. and Sampson, H. A. Effect of Environmental Allergen Sensitization On Asthma Morbidity in Inner-City Asthmatic Children. *Clinical & Experimental Allergy*, Volume 39, Issue 9, Pages 1381-1389. September 2009.
6. Gordon, T.; Amdur, M.O. Responses of the Respiratory System to Toxic Agents. Casarett and Doull's Toxicology: The Basic Science of Poisons, 4th ed.; Amdur, M.O., Doull, J., Klaassen, C.D., Eds.; Pergamon Press, Inc.: New York, 1991; pp 383-406.
7. Infante-Rivard, C., Weichenthal, S. Pesticides and Childhood Cancer: An Update of Zahm and Ward's 1998 Review. *Journal of Toxicology and Environmental Health, Part B*, Volume 10, Issue 1 & 2, pages 81-99. March 2007.
8. Davis, J.R. et al. Archives of Environmental Contamination and Toxicology; Vol. 24, p 87-92. Family pesticide use and childhood brain cancer. 1993.
9. Porter, W.P., J.W. Jaeger, and I.H. Carlson. Toxicology and Industrial Health, Vol. 15(1-2), p. 133-150. Endocrine, immune, and behavioral effects of aldicarb (carbamate), atrazine (triazine) and nitrate (fertilizer) mixtures at groundwater concentrations. 1999.

Midwest Pesticide Action Center is dedicated to reducing the health risks and environmental impacts of pesticides and promoting safer alternatives.

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