

Pesticides and Lead: Hazards for Migrant Farm Workers

Health care providers play an important role in identifying and preventing two environmental hazards for migrant farm workers and their children.

Although infections and injury are common examples of environmental hazards that health care providers encounter among migrant farm workers, pesticide exposure and lead poisoning may be a higher risk to them and their families. The children especially are at risk. Here are a few key assessment points, clinical "prompters" and teaching points derived from various U.S. Environmental Protection Agency sources. Please use them to help migrant workers limit their risk and safeguard their health. There are also related Web-based resources and toll-free telephone numbers for additional information.

Pesticide exposure

Here are three steps to help prevent exposure to pesticides through contact with skin, ingestion or inhalation.

Step One: Recognize Symptoms

- Headache, drowsiness, runny nose, sore throat, watery eyes, itchy skin and nausea or vomiting (similar to other medical conditions).
- Muscle twitches or weakness, sweating, salivation, blurred vision or myosis (pinpoint pupils); difficulty with memory or concentration and incontinence (more severe exposure to organo phosphate or carbamate pesticides).
- Seizures, loss of consciousness and respiratory depression (the most severe cases).

Step Two: Ask Questions

Keep in mind, even farm workers and their child with no clinical symptoms or complaints may experience frequent, low-level exposure to pesticides. Asking questions of these individuals provides an opportunity for promoting wellness and preventing future exposure.

Occupational and environmental exposure histories, essential to accurate diagnosis and treatment, often are best integrated into one general health questionnaire. Here are key questions for migrant farm workers:

- Are pesticides used where you live or work?
- Were fields wet when you were working?

- Was any spraying going on while you were working in the fields?
- While working, do you wear gloves, long pants, long sleeves, a hat, boots or other protective gear?
- Do you feel sick during or after working in the fields? (Or do you have any of the following symptoms: runny nose, sore throat, headache or other complaint during or after working in the fields?)
- In the event you are exposed to pesticides, do you wash your hands, remove your clothes, change your clothes before going home or anything else?
- Do your children ever go to the fields with you? And how do you dress them?

Step Three: Ask More Questions

Children of migrant farm workers may be exposed to pesticides even if they do not work or play in treated fields. Asking questions about the home and surrounding environment can help identify if a child is at risk.

- How close do you live to sprayed field?
- Are empty pesticide containers taken and used at home for other purposes such as storage or cleaning?
- Are children exposed to work clothes or shoes? (These are "take home" exposures that working adults may bring into the home.)
- Are any household pesticides used? If so, what is the pest problem? (The HCP can help identify other pest management techniques that might be useful.)
- Are any field pesticides used where your children live or play?

More detailed clinical information regarding pesticide poisonings is provided in EPA's *Recognition and Management of Pesticide Poisonings* (fifth edition), available in English and Spanish without charge (see resources list).

You can help ensure adequate protection of migrant farm workers under the federal Pesticides Worker Protection Standard. The standard requires employers to provide pesticide safety training, personal protective equipment, transportation of a worker to a health care facility in the event of a suspected poisoning and information to the health care worker on the suspected pesticide involved. For more information, or if you suspect a violation, contact EPA Region 5 at (312) 353-2192. Or, contact your state government representative for pesticides (see resources list in this brochure).

Lead poisoning

Here are three steps to help prevent poisoning from lead, which is the result of breathing or swallowing lead dust, eating soil or paint chips containing lead, or drinking water contaminated with lead.

Step 1: Recognize Symptoms

- Inattentive, hyperactive and irritable.
- Problems with learning and reading, delayed growth, hearing loss and headaches (greater lead levels).
- Difficulty concentrating, brain damage and nervous system disorders (at high levels).

Step 2: Ask Questions

Lead is a potent poison that can affect people of any age. Children are especially vulnerable; their developing nervous systems are particularly sensitive to the effects of lead. Even children who appear healthy may have high levels of lead in their bodies. Lead exposure can harm young children and babies even before they are born, so preventing lead exposure in pregnant women is also a concern. Early identification and treatment of lead poisoning reduces the risk.

Lead screening questions assist in identifying sources of lead not only for children with elevated blood lead, but also children who may be at continued risk of getting lead poisoning in the future due to living conditions. Some helpful screening questions are:

- Do you live in housing recently renovated or repaired?
- Do you live in housing built before 1978, which may increase the risk of lead poisoning?
- Is there chipping, peeling paint or paint in poor conditions where you live?
- Do you use any home remedies or imported ceramic plates or cups?
- Is there lead contained in your water or soil?

Step 3: Disclosure

Migrant children often live in older housing that might place them at risk of lead poisoning. *Guidelines for Health Care of Migrant Farmworkers*, published by the American Academy of Pediatrics and the Migrant Clinicians Network in 2000, offers the following guidance for lead testing.

"All migrant children 0 to 6 years of age should receive a minimum of two lead tests—one at approximately 1 year of age and the second at age 2. If the blood lead level is greater than or equal to 10 µg/dl in either of these evaluations, if a sibling has elevated blood lead levels, or if

the health care professional suspects that a child is exposed to lead, then additional and more frequent blood lead determinations are indicated." (p. 86)

Patient education

By including these key points in patient education, you can help them reduce their risks of pesticide exposure and lead poisoning. Of course, the patient's interest in taking these steps may hinge on their understanding of the health risks they can prevent. Thus, a general discussion with patients about these effects may be necessary first.

At Work

- When you handle pesticides or work in areas where pesticides have been applied, wash your hands with soap and water every time you take a break. (Water for hand washing should be available in the field. Water should be clean, not irrigation water.)
- Leave the area where pesticides are located and wash your hands and face before eating, drinking, chewing gum, smoking cigarettes or using other tobacco products, using the toilet or putting on makeup.
- Tobacco products and food absorb pesticides, so don't carry them with you while you work. Leave them someplace where pesticides won't get on them.
- Always keep your work clothes separate from your family's clothes. At home, be sure to keep your contaminated work clothes out of reach of children and pets. Wash work clothes in a separate load in the washer.
- If possible, hang your work clothes out to dry. Try not to use a clothes dryer because pesticides may contaminate the clothes dryer over a period of time.
- After washing work clothes, it is a good idea to clean the machine by running the washer at least one complete cycle without clothing but with detergent and hot water before washing other clothes.
- Never use an empty pesticide container for another purpose. Although the container may appear clean, there may be residues of the pesticide in the seams or container materials.
- Do not enter agricultural fields during entry prohibition periods related to the application of pesticides. Your employer is responsible for informing you of these entry prohibitions.

At Home

- Always store pesticides and other household chemicals, including chlorine bleach, out of children's reach—preferably in a locked cabinet.

- Always read directions carefully, or have them read to you, because pesticide products, household cleaning products and pet products can be dangerous or harmful if too much is used and ineffective if too much or too little is used. Be sure to read and follow the directions on the label.
- Before applying pesticides or other household chemicals, remove children and their toys, as well as pets, from the area. Keep children and pets away until the pesticide has dried or as long as recommended on the label.
- If your use of a pesticide or other household chemical is interrupted (perhaps by a phone call), properly re-close the container and remove it from children's reach. Always use household products in child-resistant packaging.
- Never transfer pesticides to other containers that children may associate with food or drink (like soda bottles), and never place rodent or insect baits where small children can get to them. Don't use unlabeled materials.
- When applying insect repellents to children, only use repellents formulated for use on children. Read all directions first; do not apply over cuts, wounds or irritated skin; do not apply to eyes, mouth, hands or directly on the face; and use just enough to cover exposed skin or clothing, but do not use under clothing. Bathe children after repellents are used or before bedtime.
- Wash children's hands, bottles, pacifiers and toys often, and regularly wet-clean floors, window sills, and other surfaces to reduce potential exposure to lead dust.
- Get your child tested for lead if you suspect he or she has been exposed to lead in either your home or neighborhood.
- Inquire about lead hazards. When buying or renting a home or apartment built before 1978, the seller or landlord is now required to disclose known lead hazards.
- Most well or city water does not naturally contain lead. But water may pick up lead from plumbing that is made with lead. To reduce the risk of exposure to lead in water, use only cold water for drinking, cooking and making baby formula. Run water for 15 to 30 seconds before drinking it, especially if you have not used your water for a few hours.
- Look for signs of peeling or deteriorating paint on window sills, doors or walls. If you suspect that lead-based paint has been used in your home, or if you plan to remodel or renovate, get your home tested. Do not attempt to remove lead paint yourself. Call (800) 424-LEAD for guidelines.

Resources for Clinicians

PESTICIDES

National Pesticide Information Center, call (800) 858-7378 Provides science-based pesticides information and lists of state and regional poison control centers.

Recognition and Management of Pesticide Poisonings (5th edition) is available at <www.epa.gov/oppfead1/safety/healthcare/handbook/handbook.pdf>. For a free printed, call (703) 305-7666.

Michigan Dept. of Agriculture
Pesticides & Plant Pest Management Division,
611 W. Ottawa Street
P.O. Box 30017
Lansing, MI 48909
Telephone: (517) 373-1087

LEAD

National Lead Information Clearinghouse, call (800) 424-LEAD

EPA's lead Web site, www.epa.gov/lead

GENERAL

Great Lakes Center for Children's Environmental Health, Cook County Hospital, Chicago Illinois. Telephone: (800) 672-3113. This center can provide clinical consultations and evaluations, training opportunities, and hazard evaluations for children's environmental health concerns.

Safe Drinking Water Hotline: (800) 426-4791

Indoor Air Quality Hotline: (800) 438-4318

Handbook on Children's Environmental Health (1999), American Academy of Pediatrics, (888) 227-1770. Cost involved.

Training Manual on Pediatric Environmental Health: Putting It Into Practice. Children's Environmental Health Network (CEHN) is available at CEHN Web site: www.cehn.org/cehn/trainingmanual/manual-front.html

Migrant Clinicians Network
P.O. Box 164285
Austin, Texas 78716
Telephone: (512) 327-2017
Fax: (512) 327-0719
www.migrantclinician.org

National Center for Farmworker Health
1770 FM 967
Buda, Texas 78610
Telephone: (512) 312-2700

A NOTE REGARDING THE FEDERAL LEAD DISCLOSURE RULE

If they reside in the same housing for at least 100 days, migrant farm workers and their families may be covered by a federal law referred to as the Lead Disclosure Rule. This law requires that renters be informed in writing of everything the landlord may know about the presence of lead-based paint and lead-based paint hazards in the housing. Also, the landlord must provide a specified, written warning statement about the potential health effects for children exposed to lead-based paint hazards and a specific informational pamphlet titled, Protect Your Family from Lead in Your Home (available in English and Spanish).

Although this rule does not require lead testing of property by the landlord, it may provide useful disclosure information to you and your patients in the event lead testing of the property has been done. If you would like more information about this requirement or believe it may have been violated, please contact EPA at (312) 886-7061 or (312) 886-6003.