

ORGANOPHOSPHATE PESTICIDES & CHILD HEALTH:

A Primer for Health Care Providers



PREVENTION

ANTICIPATORY GUIDANCE

The health care provider plays an important role in preventing childhood poisonings. As trusted sources of information, they can positively influence parental behavior, and can provide important anticipatory guidance regarding pesticide exposure. We have focused on organophosphate pesticides both because they are widely used and have been important historically in terms of exposures and illnesses. However, the anticipatory guidance and approaches described here are applicable to other pesticides and environmental agents of concern.

Preventing (and diagnosing) pediatric pesticide poisonings hinges on the clinician having a sufficient knowledge of pesticide toxicity and routes of exposure to foster an index of suspicion regarding these compounds. As seen in this case study, a thorough environmental exposure history can be instrumental in identifying potential risks related to illness, as well as guiding prevention messages. Eliciting environmental exposure histories is recommended for both acute care and well-child visits as a means of both improving diagnoses and preventing future environmental illness.

In order to reduce Isabella's exposure to pesticides, you recommend several steps be taken by Rosa and José. These measures will serve to both prevent future acute pesticide poisonings as well as reduce chronic pesticide exposures.

You recommend:

- Isabella not be brought to the workplace
- Removal of José 's work clothes at work and before getting in his car
- José shower after work before interacting with Isabella
- José remove his work shoes or boots before entering the house
- José store his work shoes or boots outside the home
- José 's work clothes be laundered separately

- When pesticides are being sprayed on adjacent fields, close the windows and keep Isabella indoors until spraying is finished (or take her away from the residence)
- Wash Isabella's hands frequently
- Wash the toys that Isabella mouths frequently

You also provide the family with some contacts for low toxicity pest management in their home.

The following are some key general preventive messages for parents and caregivers, particularly those in agricultural settings:

- Reduce or eliminate home and adjacent area use of organophosphate pesticides, especially if pregnant women or young children are in the home.
- Ensure proper storage and labeling of pesticides.
- Don't store highly toxic pesticides, especially agricultural pesticides, in homes.
- Discard or clean pesticide-contaminated containers and equipment separately. Keep well out of children's contact.
- Wash potentially contaminated work clothes separately from family laundry.
- Remove potentially contaminated work clothing before interacting with children or entering a car or truck.
- Wash fruits and other fresh produce; promote consuming organic produce.

If pesticides are going to be used in the home:

- Spot treat or use directed crack and crevice sprays, baits, gels, and pastes - these pose less potential for exposure than broadcast treatments in the home.

When using pesticides at work or home:

- Never apply without following label directions (not more frequently, more concentrated, nor at a higher rate).
- Wear protective gloves, long sleeves, and protective clothing.

- Don't re-enter areas of application until after the interval specified on label.

Health care providers can positively influence parental behavior and can provide important anticipatory guidance regarding pesticide exposure. They are trusted advisers to the community and can augment their role in prevention by supporting school and community level measures to reduce organophosphate pesticide use. Both the acute poisoning potential and concern for chronic health impacts make it essential that health care providers maintain a high index of suspicion and offer informed guidance on pesticide exposure reduction for children.