

CHILDREN AND POISONING

Seconds Matter

Fred Whitford, Coordinator, Purdue Pesticide Programs

Amy Brown, Coordinator, Pesticide Education and Assessment, University of Maryland

Lynn Ballentine, Specialist in Poison Information, Indiana Poison Center, Methodist Hospital

Bill Field, Professor, Agricultural and Biological Engineering, Purdue University

Kelly Pearson, Extension Educator, Warren County

Arlene Blessing, Developmental Editor and Designer, Purdue Pesticide Programs



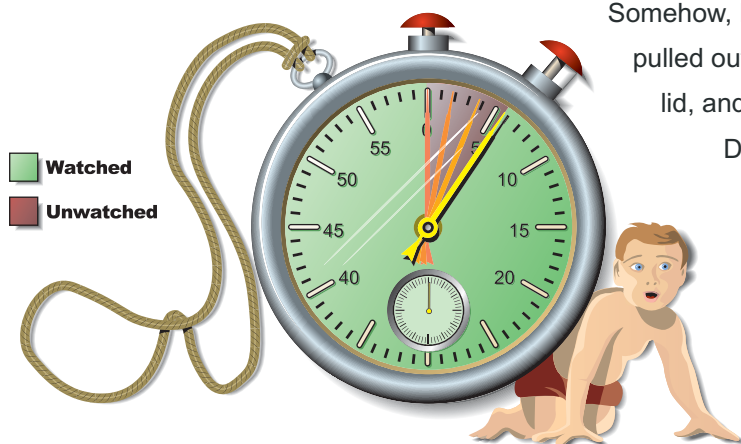
PURDUE PESTICIDE PROGRAMS

Introduction

A poisoning can happen so quickly! One minute a mother was watching her toddler playing and laughing, and just minutes later she found him in the kitchen sitting in a puddle of household insecticide.

Somehow, he had gotten into the cabinet under the sink, pulled out the long forgotten pesticide, unscrewed the lid, and drunk an unknown amount.

Distractions can be tragic! Mom was polishing the dining room table, when the telephone rang. Seeing that her two-year-old was on the other side of the room, she put the polish and rag on the table and answered the phone. The next thing she knew, the child was crying and coughing. The bottle was lying on the floor by the table. Her toddler had tried to help mom polish the table and had swallowed some of the polish in the process.



Poisonings Can Take Only Seconds...

Do you know where your child is every second?

Consider this third case: A father ran an errand, leaving his daughter in charge of her younger brother. The daughter began playing her favorite computer game as soon as her father left. Many minutes later, she realized that she hadn't seen or heard her brother for quite some time. She searched the house and found him in their parents' bedroom where he had just swallowed the contents of a perfume bottle.

For many, their first reaction is, This only happens to other people's children. However, each day, poison control centers handle thousands of calls from parents whose children have been exposed to medicines, personal care products, pesticides, household cleaners, and poisonous plants. In fact, a child is poisoned every 30 seconds in the United States. Even though most of these poisonings can be treated at home with instructions provided by poison control centers, other poisonings are serious enough to require emergency medical treatment—and some result in permanent injury or death.

What would have been your reaction to these incidents if they had happened to your child? Do you know whom to call first, and what to do while waiting for assistance? Are your other children or caregivers prepared to react appropriately in the event of a poisoning? While it is impossible to completely poison-proof your home, there are a few simple things that can be done around the home to greatly reduce the likelihood of a poisoning.

How Poisonings Happen

Most childhood poisonings occur to children under the age of five:

- Children this age are in a period of learning and discovery. Whatever they see, they pick up and examine; and often the object ends up in their mouth.
- During these years, children's mobility increases and areas that had been inaccessible, previously, are no longer. Parents are sometimes surprised to find that their toddler can devise a way to reach something he wants, as in pushing a chair or table into position to reach things on the kitchen counter or in the medicine cabinet.
- Young children are attracted to bright colors, pretty packaging, and appealing fragrances. And since they cannot read labels, they do not know that the lemony-smelling furniture polish is not something to drink.
- Children often imitate adult behavior. If they see their parents swallowing medication, they may assume that the tablets or capsules are edible.
- Children who are hungry or thirsty are more likely to ingest medicine or other household products than children who are not. The very fact that they want something to eat or drink increases the likelihood that they will ingest something that smells good to them.
- Childhood poisonings often occur when parents or caretakers are busy or distracted. A good example is when meals are being prepared. It is common for children to have free run of the house as adults focus attention on preparing a meal.



Never underestimate the ingenuity of children!

Primary Sources of Poisonings

Pharmaceuticals (prescription and over-the-counter medications, vitamins, etc.) account for approximately half of all poisonings reported to poison centers. Cleaning supplies and personal care products represent approximately 20 percent; and poisonous plants, insect bites and stings, and pesticides each account for approximately 5 percent of poisoning cases. Most children are poisoned by ingestion rather than inhalation or dermal contact.

Understanding Emergency Response Teams

Ask adults, Whom would you call if you had a poisoning emergency at home? Most will answer 911 or Poison Control. But do most people know what each of these agencies does, or what information would be needed in order to help during an emergency?

911—We're on Our Way!

It may not be necessary to call 911, first, when someone is exposed to toxic materials; in fact, most poisonings are non-emergency events.

Over 96 percent of all children exposed to toxic substances suffer few, if any, effects. However, if a poisoning victim of any age is unconscious, having difficulty breathing, or having seizures, call 911 immediately.

“Hello, 911. What is the emergency?” We hear this, time and time again, on the news and on television programs. The 911 system is a county-wide program that coordinates hospital, ambulance, and fire department response teams in emergency situations.

Most 911 systems are *enhanced*, which means that the dispatcher answering the incoming call is instantly provided the name and address that correspond to the phone number from which the call is placed. This computerized information system is crucial when the caller is unable to speak or so frantic that they cannot be understood, e.g., a child too scared to talk, or an individual screaming incoherently in the heat of the moment.

The dispatcher must ask the caller for the address, even if it is on the computer screen, and he may ask for directions. He will continue to collect pertinent information about the event while dispatching emergency personnel to the scene. He may ask how many people are present and the names of those involved in the poisoning incident, and he will keep the caller on the phone until help arrives.

Poison Information Centers—We Can Advise You

Poison information centers operate 24 hours a day, 7 days a week. Trained professionals answer questions, help determine the seriousness of a poisoning, and give specific advice on how to deal with the incident. Poison information professionals also interact with and give advice to health care professionals, including emergency room



physicians, intensive care nurses, school nurses, workplace safety personnel, dentists, veterinarians, 911 dispatchers, and paramedics.

Poison information centers are staffed by specially trained nurses, pharmacists, physicians, and toxicologists. These specialists usually can determine over the phone whether or not a poisoning incident constitutes a true emergency; if it does not, they reassure the caller that the situation is not as serious as they had feared. And if the situation does have emergency potential, they offer step-by-step advice to help the caller deal with it. If complications are likely, they explain what to expect and how soon; and they generally continue to check with the caller over a period of days until the victim is feeling better and is out of danger.

Poison center staff will quickly ask the nature of the emergency and the name of the product involved, as well as the following:

- The age and weight of the child, since toxicity usually is based on these factors
- When the child was exposed
- How much the child ate, drank, or spilled
- The child's general health status
- Whether the child has any signs or symptoms
- What actions have already been taken

Details are critical in delivering proper medical advice over the phone, and each poison exposure must be assessed and managed individually. Poison center personnel have access to emergency information that equips them to manage most poisonings, but they need *the exact name of the product involved* (brand name, common name, or active ingredient). Be prepared to communicate product information directly from the pesticide container; if you cannot access the container from where you are calling, have someone bring it to you.

The poison specialist will use product information in prescribing what you should do; that is, he will be able to determine what treatment is appropriate; whether or not the victim should seek medical attention; and what symptoms, if any, may be expected. If necessary, he will coach the caller on stabilizing the victim.

Poison Center Experts: One Call Away



How to Prevent Poisonings

Prevention of poisoning through proper selection, storage, use, and disposal of poisonous products is very important. Poisonous products include household cleaners, medications, vitamins, herbal preparations, and pesticides.

Despite our efforts to the contrary, poisonings do happen; and it is particularly important that parents recognize this potential and exercise steps to minimize risk. All adults and older children need to know and understand that all cleaners and chemical products are potentially hazardous; and they should know basic first aid for poisonings and how to access the poison control center. The following safety precautions will assist you and your family—including older children—in preventing, preparing for, and handling emergencies.



Store toxic products out of reach of children

Keep prescriptions and over-the-counter medications, pesticides, and other toxic substances on shelves higher than six feet. Better still, store them in locked cabinets or containers. Purchase child-resistant devices for lower cabinets and drawers.



Purchase products in child-resistant packaging

When purchasing chemicals, choose products marketed in containers with safety caps. But remember: No container is *child-proof*.



Keep products in their original containers

Never store medications, cleaning products, paints, pesticides, or other toxic materials in food or beverage containers. And never transfer chemicals or medicines into a container bearing the label of another product.



Keep original labels on products

Make sure all product labels remain intact and legible. If a label is lost or damaged, discard the product by taking it to a household hazardous-waste disposal day; or—if you know *positively* that it is appropriate—throw it in the trash. If you do not know label instructions for disposal, check with the retailer where the product was purchased, or with the manufacturer.



Never combine products

Never mix household cleaning products together because certain combinations can be explosive or produce toxic fumes.



Never give a child medication meant for an adult

Never give a child any type of medication meant for an adult; and never administer a prescription drug to anyone but the person for whom it was prescribed.



Never refer to medicines as candy

Do not tell children that a medicine is candy, that it tastes like candy, or that it is delicious. This applies to both prescription and over-the-counter medications.



Read and follow product labels

Be sure the product is appropriate for your intended use, that you are willing to use the product only as directed, and that you have the required safety equipment (such as gloves) specified on the label.



Select the least toxic product

Read the label before you buy; and if you are uncomfortable with label information on a product, make another selection. If you are purchasing a pesticide, choose one with the signal word CAUTION, meaning slightly toxic, instead of a product labeled WARNING, which indicates moderate toxicity. If there are small children in the household, avoid chemicals with the signal word DANGER, meaning highly toxic or corrosive.



Purchase ready-to-use chemicals rather than concentrates

All chemicals in their concentrated form are more hazardous than their diluted counterpart; that is, there is less chance of serious injury from exposure to a dilution than from exposure to a concentrate. The potential for applicator exposure is greatest during mixing and loading procedures: when the product is being handled in its most concentrated form.

Avoid purchasing concentrates; but if you must use one, buy only the quantity that you will need to complete the application. Dispose of the container, according to label directions, immediately upon finishing the job. If you do have to store concentrates, secure them in a locked compartment—both out of sight and out of reach of children.



Purchase products in quantities that you will use within a short period of time

Storing leftovers increases the likelihood of a spill or poisoning incident.



Reduce inventory

Write the purchase date on each product, when you buy it, and take inventory of stored quantities regularly. Make a concerted effort to use whatever you have on hand before purchasing additional products. If you have had something for a long time and have no intention of using it, dispose of it according to label directions; or call your local extension

office, county health department, or solid waste management district for information on upcoming household product collection and disposal days. If you have outdated medications on hand, flush them.



Eliminate poisonous plants from your home and garden.

Do not cultivate poisonous plants, indoors or out, if there are small children in the household. A list of poisonous plants can be obtained free of charge from poison centers, libraries, or the Cooperative Extension Service.

How to Prepare for an Emergency

Teach your children their address as soon as they recognize letters and numbers. If they are too young to memorize it, or if they have difficulty remembering, call the 911 *non-emergency* number

(check your local directory) and verify your address in their database. If your house is in a rural area or otherwise difficult to locate, call the 911 *non-emergency* line—*before* an emergency occurs—to provide specific directions to your house.

Be aware of potentially complicating factors. Language barriers, disabilities, special medications, and

allergies to medications (such as codeine) or products (such as latex) can be dangerous in the event of an emergency.

Call the 911 non-emergency number and have these things added to the database. Post a

card beside your telephone, listing

your name, phone number, address, and directions to your home so that if a nonresident adult (e.g., a baby-sitter) needs to call 911 due to an emergency, the information will be readily available.

Have pertinent emergency numbers handy at all times. Write down the telephone number for your local

poison center and post it near your telephone, or affix a sticker that includes the number. Post the number on your refrigerator or some other prominent place; tell everyone in your family, as well as caregivers for children or elderly adults, where to find it. If you program the poison center number into your phone for quick dial, you still should post it near the phone and at one other site. It is a good idea to affix



the poison emergency sticker to your wallet or purse so the phone number is always available.

Post emergency information on the refrigerator because responders are trained to look there for emergency information. It may be posted in additional locations, as well. You may want to mark a red border around the information to make it stand out. Make sure all family members and caregivers who visit your home routinely know exactly where the emergency information is posted.

Post the following information:

- Poison center telephone number
- Long-term medications for each member of the household
- Medications and other substances to which household inhabitants are allergic (indicate who is allergic to each)
- Names and phone numbers of persons to contact in the event of an emergency
- Directions to your home

Handling a Poisoning Emergency

Reduce the exposure. Take away any hazardous substance that a person is swallowing. If there are toxic fumes, remove people from the area. If a poison has been spilled on a person, remove their clothes and flood the skin thoroughly with water; get the victim into a shower if at all possible, being careful to avoid getting the poison on yourself in the process.

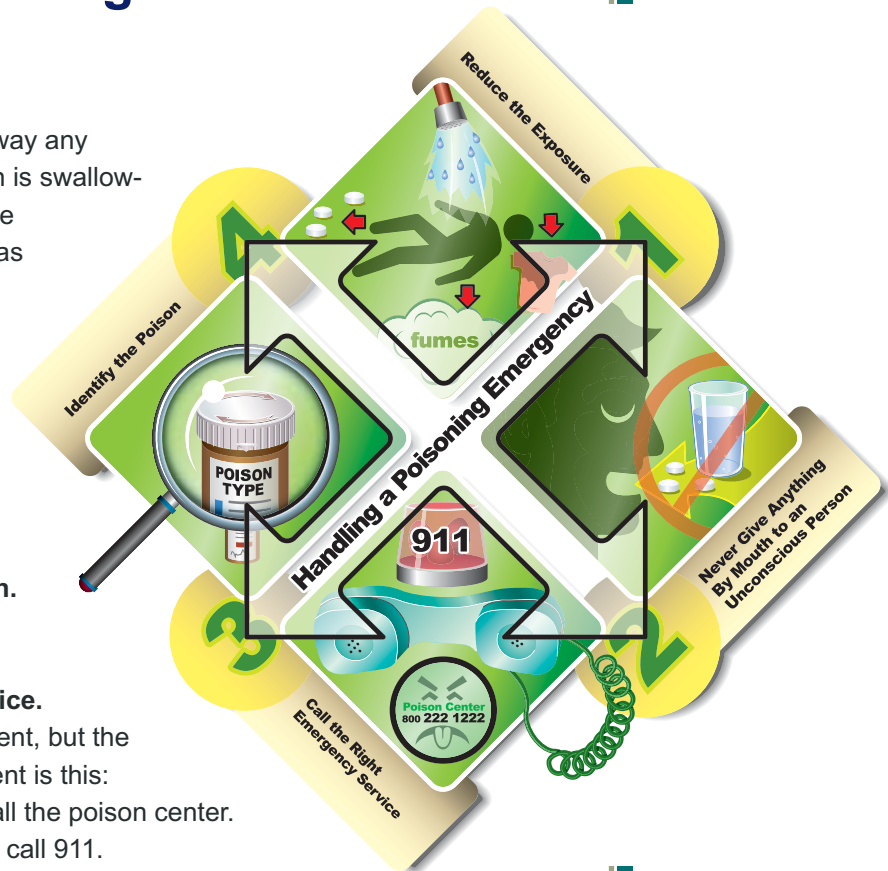
Never try to give anything by mouth to an unconscious person. Doing so could cause the victim to choke.

Call the right emergency service.

Every emergency situation is different, but the rule of thumb for a poisoning incident is this:

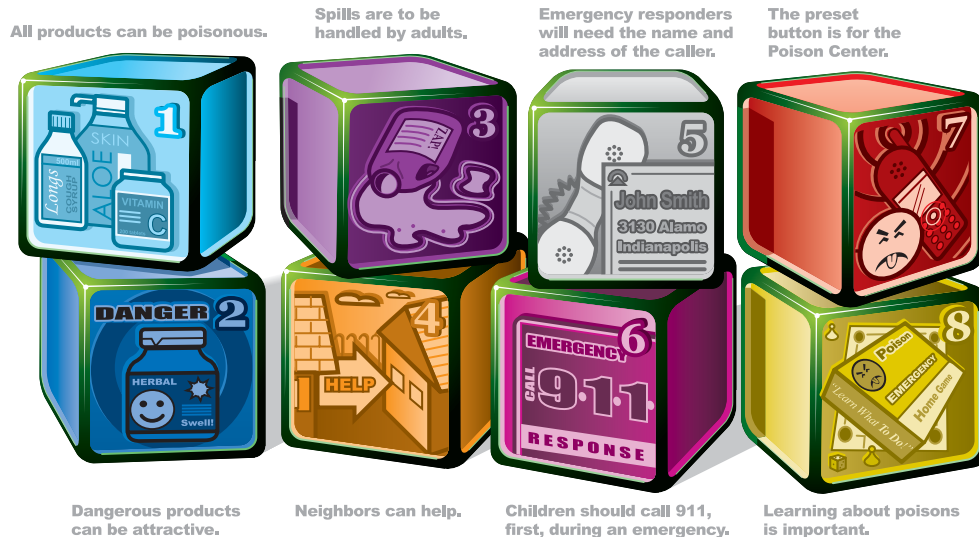
- If the person is conscious, call the poison center.
- If the person is unconscious, call 911.

Identify the poison. Poison centers can offer specific medical advice only if they know specifically what product or substance is involved. When calling the poison center, have the product container at hand, if at all possible, for access to information that the responder might request.



Teaching Children About Poisonings and Emergencies

All products can be poisonous. Teach your children that all substances have the potential to be harmful and that there are certain things they should never attempt to use without adult approval and supervision. Even medicines, vitamins, and other products routinely taken by mouth or applied to the skin can be seriously harmful if misused or abused.



Teach Children About Poisonings and Other Emergencies

Dangerous products can be attractive. Teach children that even if something is packaged in a pretty wrapper—and even if it smells or looks really good, or if it is their favorite color, or if it tastes good—it still could make them sick. Chewable vitamins and flavored liquid antibiotics prescribed for children are good examples. Keep toxic substances out of reach of children—and out of sight—regardless whether or not you think they understand this concept.

Spills are to be handled by adults. Make sure your children know that they must not touch or go near any chemical spill, even if they have caused it. Assure them that they will not get into trouble for telling you about it. Stress that their safety is your first priority, and that you will clean up the spill.

Neighbors can help. Teach children to go to a neighbor for help if you are not at home: at the first sign of a fire (smoke or heat), a chemical spill, or any unusual smell; or if an exposure occurs. Establish a safe meeting place where everyone in the family is to go in the event of an emergency. Inform your neighbors if you have instructed your children to go to them in an emergency when you are not at home. Never leave small children home alone.

Emergency responders will need the name and address of the caller (or the emergency site). Have your children practice reciting their name and address. Make sure they know where emergency information is posted (e.g., on the refrigerator, by the phone).

Children should be told to call 911, first, during an emergency. Assure them that they will not be punished for calling 911, even if it turns out not to be an emergency. Unplug the phone and have young children practice dialing 911. Teach your kids that *they must not hang up* after dialing 911, and that they need to stay on the phone and follow directions given by the dispatcher. Make sure they understand that dialing 911 is for *real emergencies* and that they *must not* dial it while playing. Earlier in this chapter we mentioned programming the number for the poison center into your phone. While older children may be able to distinguish between a poisoning and another emergency, younger children may not. Instruct young children to always dial 911.

Learning about poisons and what to do in an emergency is important—and it can be fun. Make a game of the learning process. Ask your children questions and give positive rewards for correct answers. Use the Environmental Protection Agency's interactive home website <<http://www.epa.gov/oppt/kids/hometour/>> that shows hazards in and around a household. See if the kids can locate similar things in their own home. The Poison Control Center website <<http://www.aapcc.org/games.htm>> has learning games for older children and a variety of information for parents on making the household poison-proof.

Seeking Advice on Nonemergency Questions

There are many sources for answers to nonemergency questions. When calling Poison Control or 911 with general questions, it is important to indicate immediately that the call is not an emergency. Explain that it is simply a request for information, so that the specialist can prioritize the call relative to others being received.

If you have general questions about poisonous substances, contact Poison Control or other sources for answers. For general information about medications, over-the-counter drugs, vitamins, and dietary supplements, ask your pharmacist. For information about pesticides or poisonous plants, contact your county Cooperative Extension Service. The National Pesticide Telecommunications Network, (800) 858-7378, is funded by the Environmental Protection Agency and is an excellent source of pesticide information. Most pesticide, disinfectant, sanitizer, and other cleaning product labels list the telephone number of the product manufacturer. The product manufacturer can be called during

business hours for general information regarding the product, its use, and its safe disposal.

Conclusion

It is scary to think that your children could be poisoned. It can be overwhelming to look around your home and see all of the products that could potentially harm your child. But don't be discouraged, and don't assume it's an overwhelming task to deal with these products; find a

safe place in your home to store them, or purchase a lockable cabinet. Moving products to a higher shelf or locking them in a cabinet can eliminate most problems.

Children are quick learners. Encourage older children to avoid hazardous materials and reward them when they do so.

Teach them the rules for safety; most children quickly learn what they must and must not do. A few minutes

spent talking to your children and putting items out of reach go a long way in avoiding pesticide poisonings.

Despite our best intentions, poisoning accidents still can

occur around the home. Prepare yourself and other adults to handle poisoning emergencies. Plan what you will do in an emergency situation. Spending a few minutes implementing these fundamental safety precautions. Plan what to do in the event of an emergency could make the difference between a happy ending and tragedy. Seconds do matter!



Acknowledgments

All illustrations are the work of Steve Adduci, and we truly appreciate his dedication to the enhancement of the publication. Thanks, also, to the following individuals who assisted in its development:

- David Baker, University of Missouri–Columbia
- Roy Ballard, Purdue University Cooperative Extension Service
- Tom Bean, The Ohio State University
- Gwenn Christianson, Clarian Health-Methodist Hospital
- Howard Doss, Michigan State University
- George Hamilton, Rutgers Cooperative Extension Service
- Joyce Hornstein, Iowa State University
- Mike Manning, Purdue University Cooperative Extension Service
- James Mowry, Clarian Health-Methodist Hospital
- Warren Patitz, Clarian Health-Methodist Hospital
- Wendy Klein-Schwartz, Maryland Poison Center
- Sarah Smith, University of New Hampshire
- Jayne Sanfleben, Clarian Health-Methodist Hospital
- Phillip Tocco, Purdue University Cooperative Extension Service
- Susan Whitney, University of Delaware
- Heather Warhurst, Clarian Health-Methodist Hospital

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by the Purdue University Cooperative Extension Service is implied.

It is the policy of the Purdue University Cooperative Extension Service, David C. Petritz, Director, that all persons shall have equal opportunity and access to its programs and facilities without regard to race, color, sex, religion, national origin, age, marital status, parental status, sexual orientation, or disability. Purdue University is an Affirmative Action employer.