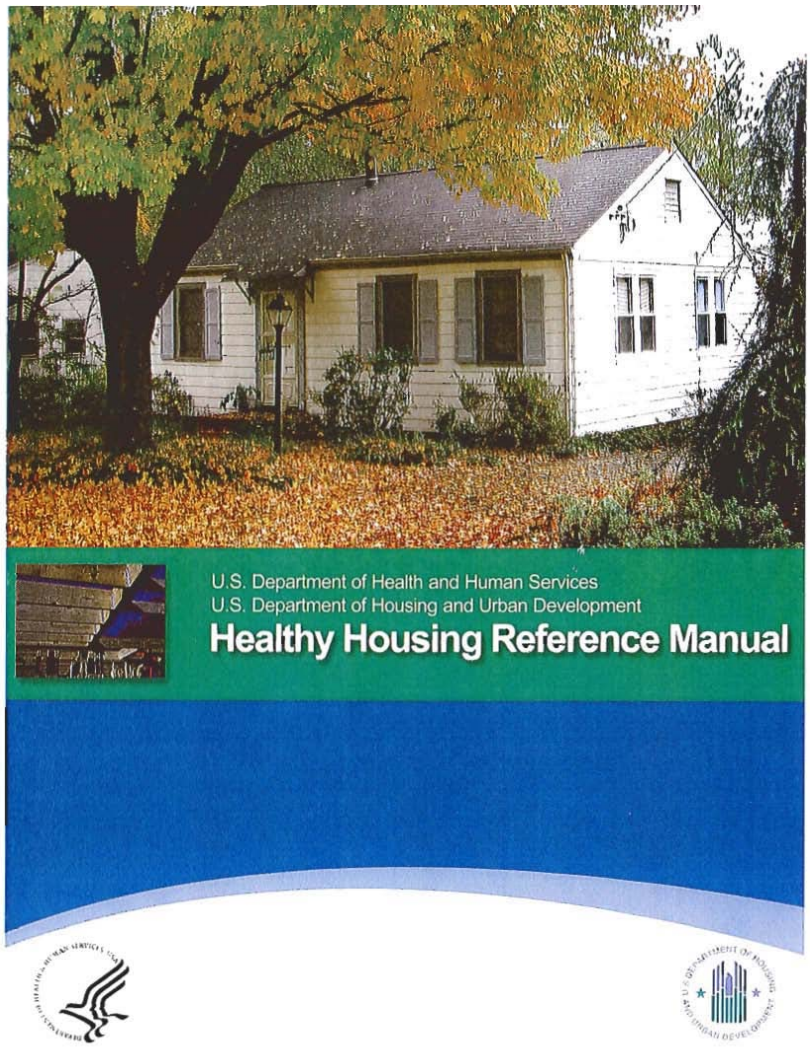

National Center for Healthy Housing

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## Making It Work

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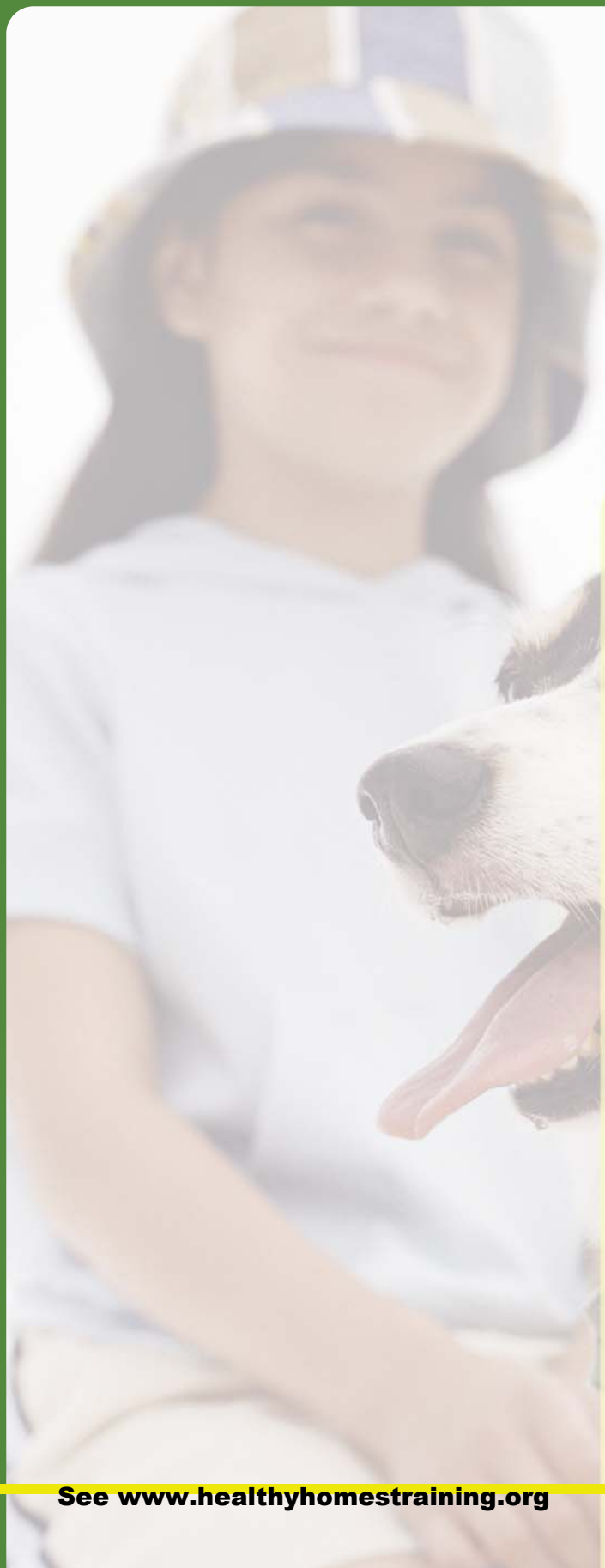
# ALLERGY

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control



*"Allergic diseases can be controlled; symptoms can be prevented or minimized."*

*American Academy of Allergy, Asthma and Immunology, "The Allergy Report"*

## Did you know...?

- As many as 40 or 50 million people in the United States suffer from allergies?[1]
- Allergies cause swollen eyes, itching skin, dripping noses, light-headedness and even death?

## What is it?

An allergy is a strong reaction by your body's immune system to something that would normally be harmless—a food, plant, or medicine. Common reactions include a stuffy nose, itchy eyes, or a skin rash. Severe allergic reactions (see below) require immediate medical attention.

Many people who have allergies also have asthma. Allergic reactions may trigger asthma attacks, where a swelling and tightening of your airways that makes it difficult to breathe (see "Asthma" fact sheet).

**Signs of Allergies and Allergic Reactions include:**

- Asthma, shortness of breath, cough, chest tightness or wheezing (See "Asthma" fact sheet)
- Itchy, watery eyes
- Itchy, inflamed or runny nose
- Hives or itchy rash on skin
- Dark circles under and around eyes
- Recurring headache
- Diarrhea or stomach cramps
- Anaphylaxis (a severe reaction) may be life-threatening. Symptoms include: swelling, tingling in the mouth, and a red, itchy rash, as well as light-headedness, shortness of breath, severe sneezing, stomach cramps, and loss of blood pressure. If these symptoms are present, go immediately to a doctor or emergency room for treatment.

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# ALLERGY

## Types of allergies

There are many types of allergies. The following are some of the most common:

| Indoor | Outdoor | Foods | Medications | Insect Stings and Bites | Contact with Skin |
|---|---|---|---|---|---|
| ■ dust<br>■ dust mites<br>■ mold<br>■ pets (most often animal skin flakes or "dander") | ■ pollen (from flowering trees and grass)<br>■ mold | ■ milk<br>■ citrus fruits<br>■ eggs<br>■ peanuts<br>■ wheat<br>■ fish & shellfish | ■ antibiotics (like Penicillin)<br>■ anti-seizure drugs<br>■ anesthetics | ■ bees<br>■ wasps<br>■ hornets<br>■ yellow jackets | ■ plants (like poison ivy)<br>■ cosmetics<br>■ skin-care products<br>■ jewelry<br>■ latex (gloves or condoms) |

## What you can do

Know your allergies, and know what to avoid. Not everyone is allergic to the same things!

- Contact your doctor about any unusual reactions to food, plants, medicines, or other items.
- Avoid contact with things you know trigger allergies.
  - Avoid being outside or having the windows open when pollen counts are high.
  - Read food labels carefully to avoid ingredients that cause reactions.
  - Choose medicines and home-care products carefully.
  - Remove carpet or vacuum often to avoid animal dander.
- Keep a clean home (for more tips, see "Asthma" fact sheet).
  - Control pests such as mice and cockroaches.
  - Vacuum floors and upholstery often and consider removing carpet.
  - Avoid having mold, cigarette smoke, pesticides, and chemicals inside the house.
  - Keep pets out of the bedrooms of family members who are allergic to them.
- In the event of a severe allergic reaction, seek emergency medical attention immediately.

## For more information . . .

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

## Other Federal Resources

US Centers for Disease Control and Prevention
www.cdc.gov/od/oc/childhealth

US Environmental Protection Agency
www.epa.gov/children

## Other Resources

American Academy of Allergy, Asthma, and Immunology (AAAAI)
www.aaaai.org

Asthma and Allergy Foundation of America
www.aafa.org

The Allergy & Asthma Network: Mothers of Asthmatics (AANMA)
www.aanma.org

Ask your doctor or contact your local or state department of health.

## Keeping a clean home can reduce some allergens

[1]Source: American Academy of Allergy, Asthma and Immunology (AAAAI). *The Allergy Report: Science Based Findings on the Diagnosis & Treatment of Allergic Disorders,* 1996-2001

# ASTHMA

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control

*"The important thing to remember is that you can control your asthma."*

Centers for Disease Control "Basic Facts About Asthma"

## Did you know...?

- Over 20 million people in the United States suffer from asthma?[1]
- Over 6.3 million children under 18 report having asthma?[2]
- There were 75% more cases of asthma in 1994 than in 1980?[3]
- Asthma is the third leading cause of hospitalization in the United States?[4]

## What is it?

**Asthma is a lung disease.** It causes people to wheeze, cough, be short of breath, and sometimes even die. People with asthma can suffer from frequent periods of difficulty breathing called "asthma attacks." During an attack, the airways swell, the muscles around them tighten, and the airways produce thick yellow mucous.

**Asthma is not contagious, but it does run in families,** so if parents have asthma, their children are more likely to have it, too.

Children, particularly those living in urban areas and crowded or unclean conditions are especially at risk for developing asthma. "African-American children living in low-income families tend to have more severe asthma and are at greater risk of death."[5]

Each person is different, but many things (called asthma "triggers") can cause asthma attacks. These can be found both outdoors and indoors and include:

- Cold weather
- Pollen
- Exercise
- Stress
- Dust and dust mites
- Cockroaches
- Mold
- Pet dander (skin flakes)
- Rodents
- Tobacco smoke
- Air fresheners

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# ASTHMA

Mold is a common asthma trigger.

*Photo by: January E. Jones, Improving Kids' Environment*

## What can you do?

Because there is no cure for asthma, **it is most important to work on preventing attacks.** There are three major categories of prevention:

### Keep a clean home.

- Make sure that your home is free of dust, mold, smoke, and other potential triggers.
- Vacuum often—HEPA (High Efficiency Particle Air) filters remove dust best.
- Keep foods stored in tightly sealed containers to avoid attracting cockroaches and rodents by keeping food in tightly sealed containers.
- Clear crumbs, drips, spills, and dirty dishes immediately.
- Identify and quickly fix water leaks in your home.

### Keep people with asthma away from dust, dust mites, and smoke.

- Use zippered "allergen resistant" mattress and pillow covers to keep dust mites out of sleeping spaces.
- Keep pets outdoors or away from sleeping areas; clear hairs from carpets and furniture.
- Quit smoking, or smoke only outside your home and car. Always keep tobacco smoke away from children.
- Change bed sheets often.
- Keep people with asthma out of a room while vacuuming or dusting.

### Get medical advice and follow the doctor's instructions.

- Get medical attention for breathing problems.
- Get emergency medical care for bad attacks of shortness of breath or wheezing.
- Take all prescribed medication, either to prevent attacks or to lessen the symptoms.
- Find out what allergies you have so you can avoid these potential asthma triggers.

### For more information . . .

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

### Other Federal Resources

US Centers for Disease Control and Prevention
www.cdc.gov/od/oc/childhealth

US Environmental Protection Agency
www.epa.gov/children

### Other Resources

American Academy of Allergy, Asthma, and Immunology (AAAAI)
www.aaaai.org

Asthma and Allergy Foundation of America
www.aafa.org

The Allergy & Asthma Network **Mothers of Asthmatics (AANMA)**
www.aanma.org

Ask your doctor or contact your local or state department of health.

Cockroaches can trigger asthma. Use traps, gel bait, and cleaning to deal with roaches.

*Photo by: January E. Jones, Improving Kids' Environment*

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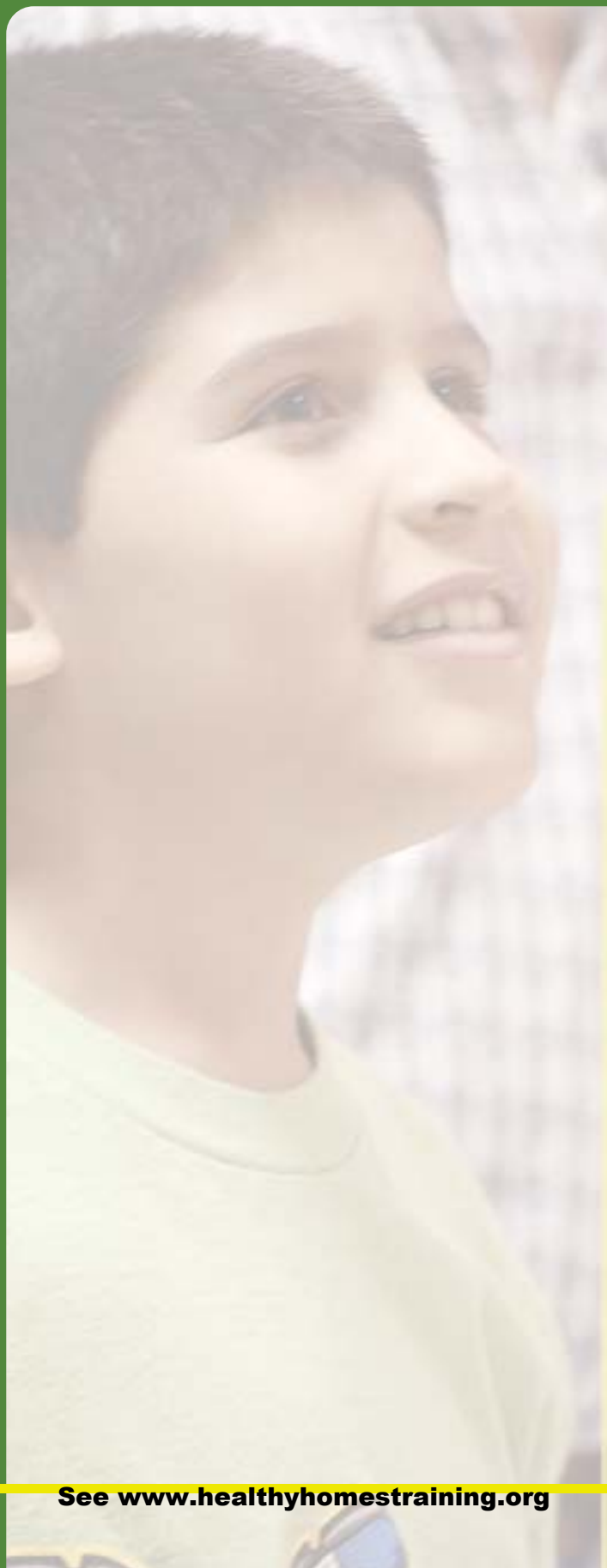
# CARBON MONOXIDE

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control



*"You can't see or smell carbon monoxide, but at high levels it can kill a person in minutes."*

*U.S. Environmental Protection Agency*

## Did you know...?

- Over 500 people in the United States die from accidental carbon monoxide (CO) poisoning each year?[1]
- Over 10,000 people seek medical attention for CO poisoning each year?[2]
- Infants, people with lung or heart disease, or people with anemia are more seriously affected?

## What is it?

Carbon monoxide is a gas that cannot be seen, smelled or tasted, and can be fatal when breathed. The symptoms that occur with carbon monoxide poisoning are similar to those of the flu and allergies. These similarities often lead to an incorrect diagnosis, such as a migraine headache, stroke, food poisoning, or heart disease.

**Carbon monoxide poisoning is caused by:**

- Operating fuel-burning products such as electrical generators without proper ventilation. Some of these products may be used indoors near an open window, and others may not be used indoors at all. Look at the manufacturers' instructions before operating any fuel-burning device in your home.
- Car exhaust entering the home from the garage.
- Combustion equipment such as furnaces or hot water heaters that are not working properly or have blocked exhaust systems.

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# CARBON MONOXIDE

Do not run you car in a closed garage.

## What can you do?

- Make sure fuel burning appliances are installed by a professional and are working properly.
- Never run your car in a closed garage and move cars out of attached garages immediately after starting them.
- Never use a gas range or oven to heat a home.
- Choose vented appliances (like gas fireplaces) whenever possible.
- Have your heating systems and chimneys inspected and cleaned by a qualified technician every year.
- Replace dirty air filters on heating and cooling systems.
- Never run a generator, pressure washer, or any gasoline-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented.
- Never use a charcoal grill, hibachi, lantern, or portable camping stove inside a home, tent, or camper.
- Make sure there is good ventilation at all times – install proper ventilation for interior combustion appliances, and consider installing air exchangers or air conditioning for "tightly-sealed" homes.
- Install carbon monoxide detectors near sleeping areas.

### For more information…

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

### Other Federal Resources

US Centers for Disease Control and Prevention
www.cdc.gov/nceh/airpollution/carbonmonoxide/cofaq.htm

US Environmental Protection Agency
www.epa.gov/children

### Other Resources

Healthy Indoor Air America's Homes
www.healthyindoorair.org/facts_co.html

Community Environmental Health Resource Center (CEHRC)
www.cehrc.org/tools/carbon/cobacmat.cfm

Ask your doctor or contact your local or state department of health.

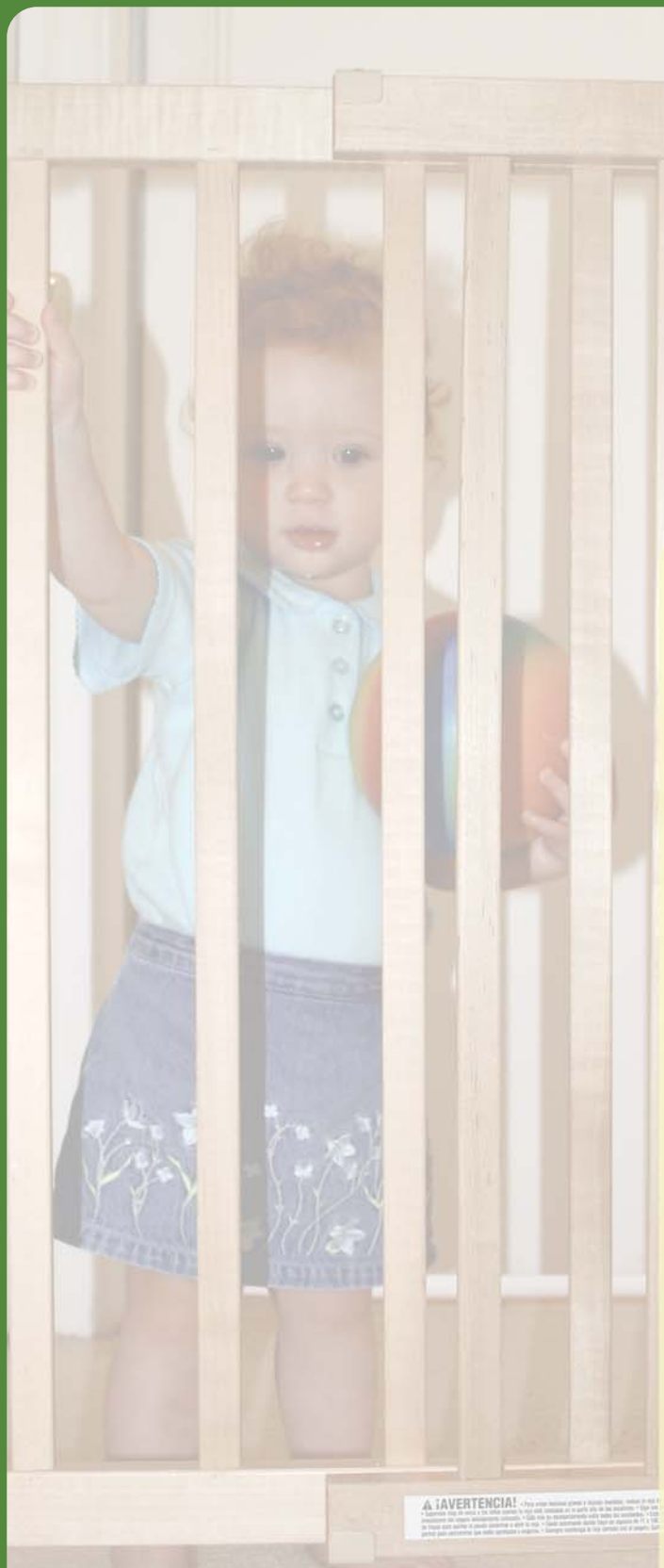
Install carbon monoxide detectors in your home.

[1]Centers for Disease Control and Prevention. "Carbon Monoxide Poisoning Fact Sheet" www.cdc.gov/nceh/airpollution/carbonmonoxide/cofaq.htm August 25, 2004

[2]Community Environmental Health Resource Center (CEHRC) "Carbon Monoxide Background Materials" www.cehrc.org/tools/carbon/cobacmat.cfm August 25, 2004

# HOME SAFETY

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control




*" There are simple steps you can take to help keep your loved ones safe in and around the home."*

Home Safety Council

## Did you know...?

- **Home accidents** kill one person every 16 minutes and injure one person every four seconds in the U.S.?[1]
- More than 1.2 million **poisonings** among children under age 5 were reported to U.S. poison control centers in 2002?[2]
- Nearly 40,000 children under age 14 are injured by **fires** each year?[3]

**Home Safety includes preventing unintentional injuries.** Unintentional injuries in the home include poisoning, fires and burns, choking, drowning, suffocation, strangulation, firearms, and falls, and they are all **preventable.**

## What you can do

There are many small and easy things you can do to protect your family from injuries in the home, some of which are listed below. **Post emergency telephone numbers next to all phones** to make it as easy as possible to get help if someone gets hurt.

### Poison

- **Read warning labels and follow storage directions on household products.** Poisonous products can include medicines, cleaning supplies, hair spray, and home repair materials.
- **Keep poisonous products out of children's sight and reach** on high shelves. Install child-proof latches on cabinets that do not have locks.

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# HOME SAFETY

- **Store food and non-food products separately** to prevent confusion and protect your family from container contamination and toxic spills.
- **Always choose non-toxic alternatives when possible** and use products with child-resistant caps.
- **Never mix cleaning products together;** they may produce dangerous fumes (ammonia and bleach should never be mixed).
- **Install Carbon Monoxide (CO) detectors** in your home.
- **Flush expired medicines down the toilet** rather than throwing them in the garbage.
- **If it is necessary to use harsh chemicals, use them when children are not at home,** or at least are in a different room. Always wear gloves when handling products that could be toxic and follow all manufacturers' instructions.

## Fires and Burns

- **Install smoke detectors on every floor of your home near every bedroom.** Test detectors every month and change their batteries every year. Never disable smoke detectors.
- **Develop a family escape plan.**
- **Keep matches, lighters, and candles out of children's reach.** Never smoke in bed. It is the leading cause of fire-related deaths.
- **Keep anything that can catch fire away from fireplaces, heaters, and radiators.** Replace frayed electrical wires.
- **Take care to avoid kitchen fires and burns.**
  - Stay in the kitchen while cooking.
  - Turn pot handles toward the inside of the stove so children cannot grab them.
  - Install ground-fault circuit interrupters (GFCIs) in kitchens and bathrooms.
- **Set water-heater thermostats below 120° F (50° C).** Always test the water before bathing yourself or your child.

## Drowning, Choking, Suffocation, and Strangulation

- **Never leave children alone near water,** including bathtubs, buckets, swimming pools, rivers, and the ocean. Learn and practice First Aid and CPR.
- **Use child-proof fencing** around all swimming pools and hot-tubs.
- **Avoid toys for children under 3 years of age that are smaller than 2 inches long and 1 inche wide.** Toys for young children should never have small or removable parts that could be choked on.
- **Avoid window blinds with looped cords,** which may cause strangulation if not stored out of children's reach.
- **Keep plastic bags and drawstring cords away from children.**

## Falls and Other Injuries

- **Keep your floors free of anything that may cause tripping,** such as toys, shoes, or magazines.
- **Use stools, ladders and stepladders carefully.**
- **Make sure that your home is well lit.**
- **Use guards on windows and safety gates near stairs** to keep children from falling
- **Follow manufacturers' instructions for storing and using lawn equipment or chemicals.**
- **Wear protective gear on eyes and ears when using power tools.**
- **Keep sharp or electronic kitchen and bathroom items out of children's reach.** Keep electric appliances away from water.
- **Always keep firearms well secured.** Firearms should always be locked, unloaded, and stored out of reach. Store ammunition in a separate, locked location.

## For more information . . .

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health and safety hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

## Other Federal Resources

US Centers for Disease Control and Prevention
www.cdc.gov/od/oc/childhealth

US Environmental Protection Agency
www.epa.gov/children

## Other Resources

National Safe Kids Campaign
www.safekids.org

National Safety Council
www.nationalsafetycouncil.org

Home Safety Council
www.homesafetycouncil.org

## Emergency Resources

National Poison Control Center hotline: 1-800-222-1222.
For other emergencies (fire, drowning, choking, falls, etc.) call 911. In areas without 911 service, memorize your fire department's emergency phone number. In case of fire, dial 911 from outside your home.

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[1]National Safety Council "Report on Injuries in America, 2002" www.nationalsafetycouncil.org/library/report_injury_usa.htm August 25, 2004

[2]National Safe Kids, "Poison" www.safekids.org/tier2_rl.cfm?folder_id=176 August 25, 2004

[3]National Safe Kids, "Fire" www.safekids.org/tier2_rl.cfm?folder_id=171 August 25, 2004

# LEAD

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control

*"Despite progress, lead poisoning remains one of the top childhood environmental health problems today."*

*President's Task Force on Environmental Health Risks and Safety Risks to Children*

## Did you know...?

- Many homes built before 1978 have lead-based paint?
- 3.8 million homes in the United States have peeling or chipping lead-based paint or high levels of lead in dust?
- Infants, children under six, and pregnant women should have their blood tested for lead?
- In the United States, children from poor families are eight times more likely to get lead poisoned?

## What is it?

Lead is a toxic metal used in a variety of products and materials. When lead is absorbed into the body, it can cause damage to the central nervous system and vital organs like the brain, kidneys, nerves, and blood cells. Symptoms of lead poisoning include headaches, stomachaches, nausea, tiredness, and irritability, which may also occur with the flu and some viruses. Lead can also harm children without causing obvious symptoms. Both inside and outside the home, old, deteriorated paint releases lead, which mixes with dust and soil. Children who ingest lead or lead dust by putting their hands or other objects in their mouths, by eating paint chips, or by playing in lead-contaminated soil may become poisoned.

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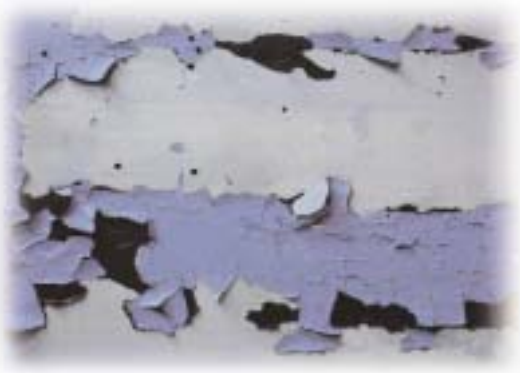
In homes built before 1978, treat peeling paint as a lead hazard.



# What can you do?

1. **In your home, if it was built before 1978:**
   a. Have it checked for lead hazards by a professional (including the soil).
   b. Mop smooth floors (using a damp mop) frequently to control dust.
   c. Vacuum carpets and upholstery to remove dust, preferably using a vacuum with a HEPA filter or a "higher efficiency" collection bag.
   d. Take off shoes when entering the house.
   e. Pick up loose paint chips carefully then HEPA vacuum.
   f. Take precautions to avoid creating lead dust when remodeling, renovating, or maintaining your home.
2. **For your child:**
   a. Frequently wash your child's hands and toys to reduce exposure.
   b. Use cold tap water for drinking and cooking.
   c. Avoid using home remedies (such as arzacon, greta, or pay-loo-ah) and cosmetics (such as kohl or alkohl) that contain lead.
   d. Have your child's blood lead level tested at age 1 and 2. Children from 3 to 6 years of age should have their blood tested, if they have not been tested before and:
      i. They live in or regularly visit a house built before 1950;
      ii. They live in or regularly visit a home built before 1978 with on-going or recent renovations or remodeling; or
      iii. They have a sibling or playmate who has or did have lead poisoning.

## For more information…

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

## Other Federal Resources

U.S Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control (OHHLHC)
www.hud.gov/offices/lead or call (202) 755-1785 x. 104

The National Lead Information Center
1-800-424-LEAD (5323)
www.epa.gov/lead/leadpbed.htm

Centers for Disease Control and Prevention (CDC)
www.cdc.gov/nceh/lead/lead.htm

Environmental Protection Agency (EPA)
www.epa.gov/lead

U.S Occupational Safety and Health Administration (OSHA)
www.osha-slc.gov/SLTC/lead/index.html

U.S Consumer Product Safety Commission (CSPC)
www.cpsc.gov or call
1-800-638-8270

## Other Resources

Dust created by opening and closing windows is a common lead hazard.

*Photo by: January E. Jones, Improving Kids' Environment*

Healthy Indoor Air for America's Homes
www.healtyindoorair.org/facts_lead.html

Community Environmental Health Resource Center (CEHRC)
www.cehrc.org/tools/lead/leaddust/background.cfm

Alliance for Healthy Homes
www.afhh.org or (202) 543-1147

National Center for Healthy Housing
www.centerforhealthyhousing.org

Parents Against Lead (PAL)
(773) 324-7824

# MOLD

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control

*"The key to mold control is moisture control."*

U.S. Environmental Protection Agency

## Does your home have...?

- Stains or discoloration on your walls, ceiling, or furniture?
- A damp or musty smell?
- Water problems like a leaky roof or water in the basement?

## What is it?

**Molds are alive.** There are hundreds of thousands of different types of mold. They are living organisms that grow naturally, particularly in warm, damp, humid conditions where there is little air movement. Often called "mildew," molds are related to mushrooms and yeast but are much smaller—we can only see or smell mold when there is a large quantity. Mold can grow almost anywhere: on walls, ceilings, carpets, or furniture. Humidity or wetness, caused by water leaks, spills from bathtubs or showers, or condensation, can cause mold to grow in your home.

Mold produces "spores," tiny particles that float through the air. These can sometimes cause health problems. Mold does not affect everyone, and different people are affected differently when mold is breathed or inhaled. People who are allergic to mold may get *watery eyes, runny or stuffed noses, itching, headaches,* and may have *difficulty breathing.* Mold can also trigger *asthma attacks* (see "Asthma" fact sheet). Some molds produce toxins (poisons) that may be hazardous if people are exposed to large amounts of these molds.

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# What can you do?

You cannot eliminate all mold spores from a home, but you can take the following steps to prevent and get rid of mold.

### Prevent: keep your house clean and dry following steps to prevent and get rid of mold.

- Fix water problems such as roof leaks, wet basements, and leaking pipes or faucets.
- Make sure your home is well ventilated and always use ventilation fans in bathrooms and kitchens.
- If possible, keep humidity in your house below 50% by using an air conditioner or dehumidifier.
- Avoid carpeting in kitchens, bathrooms, and basements. Dry floor mats regularly.

### Identify: find mold that might be growing in your home.

- Search for areas that have a damp or moldy smell, especially in basements, kitchens, and bathrooms.
- Look for water stains or colored, fuzzy growth on and around ceilings, walls, floors, window sills and pipes.
- Search behind and underneath materials such as carpeting, furniture, or stored items.
- Inspect kitchens, bathrooms, and basements for standing water, water stains, and patches of out-of-place color.

### Respond: fix any water problems immediately and clean or remove wet materials, furnishings, or mold.

- Clean up spills or floods within one day.
- Dry all surfaces and fix the problem or leak to prevent further damage.
- Install a dehumidifier where there is high humidity.
- Replace contaminated components, such as drywall and insulation.
- Clean mold off non-porous surfaces with a weak solution of bleach and water.
- Throw away moldy materials that cannot be cleaned, such as carpet, upholstered furniture, drywall, and floorboards.
- When cleaning mold, protect yourself by wearing long sleeves, pants, shoes, and rubber gloves, as well as goggles and a face-mask.
- If you find a large area of mold (larger than the top of a twin-sized bed) or are allergic to mold, consider hiring a professional to clean it and fix the cause of the problem.

*(For a list of mold-removal professionals, look under "Fire and Water Damage Restoration" in your telephone book.)*

**Moldy materials that cannot be cleaned should be thrown away.**

### For More Information…

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home. Additional information on mold can be found on a web site developed by HUD at www.healthy-homes.info

### Other Federal Resources

EPA: Indoor Air Quality – Mold. "Mold Resources"
www.epa.gov/mold

CDC: National Center for Environmental Health, Mold
www.cdc.gov/nceh/airpollution/mold/

FEMA: Actions to Take Following a Flood
www.fema.gov/hazards/floods/

### Other Resources

American Academy of Allergy, Asthma, and Immunology (AAAAI):
www.aaaai.org

American Industrial Hygiene Association
www.aiha.org/

Minnesota Department of Health, Mold
www.health.state.mn.us/divs/eh/indoorair/mold/

California Department of Health, Mold
www.cal-iaq.org

# RADON

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control

*"You can't see radon. And you can't smell it or taste it. But it may be a problem in your home"*

U.S. Environmental Protection Agency

## Did you know...?

- Radon is the second leading cause of lung cancer, after smoking?[1]
- Approximately 20,000 cancer deaths each year are caused by radon?[2]

## What is it?

**Radon is a radioactive gas that cannot be seen, smelled, or tasted** and is found naturally around the country. When you breathe air containing radon, the sensitive cells in your airway are irritated, increasing your risk of getting **lung cancer**.

Radon is found in the dirt and rocks beneath houses, in well water, and in some building materials. It can enter your house through soil, dirt floors in crawlspaces, and cracks in foundations, floors, and walls. Once inside, radon gas can sometimes get trapped inside the house.

All houses have some radon, but houses next to each other can have very different radon levels, so the only way to measure your particular risk is to test your own house. Radon is measured in "picoCuries per liter of air," abbreviated "pCi/L." This measurement describes the number of radon gas particles in one liter of air. The amount of radon outdoors is usually around 0.4 pCi/L, and indoors is around 1.3 pCi/L. Even though all radon exposure is unhealthy, radon at levels below 4 pCi/L are considered acceptable. If your home has more than 4 pCi/L, you should take action to lower this level.

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# What can you do?

## Test your Home!

About 1 out of every 15 homes has a radon problem, and yours could be one of them! The only way to know for sure is to test your home. You can buy a radon test at a hardware store or order it by mail. There are two types of tests: short-term tests take 2 days, while long-term tests take around 90 days but give results that are slightly more accurate.

**Follow all the instructions that come with your test kit.** If possible during the test, keep your windows closed to keep air from escaping. Place your test kit in a room on the lowest level of your home that you use regularly, probably on the first floor or in the basement. When the test is done, send it to a lab to process your results.

Instead of doing the testing yourself, you can hire a professional tester to do it for you. Contact your state's radon office for a list of qualified testers.

## Fix It!

It is possible to lower the levels of radon, and the risk of lung cancer, in your home. Most of the time, this will involve removing radon gas from underneath your concrete floor, crawlspace, or foundation before it can enter your home. This will require special knowledge and skills and you will need to hire a professional contactor to help you reduce the levels of radon in your home. If you are considering fixing your home's radon problem yourself, you should first contact your state radon office for guidance and assistance.

## A few more things you can do

1. **Stop smoking** and discourage smoking in your home. Smoke increases the risk of lung cancer from radon.
2. **Increase air flow in your house** by opening windows and using fans and vents to circulate air. Natural ventilation in any type of house is only a temporary radon reduction approach because of the following disadvantages: loss of heat or air conditioned air, related discomfort and increased costs, and security concerns.
3. **Seal cracks in floors and walls** with plaster, caulk, or other materials designed to seal cracks and gaps.

Contact your state radon office for a list of qualified contractors in your area and for information on how to fix radon problems yourself. Always test again after finishing to make sure you've fixed your radon problem.

If you are buying a new home, ask whether radon-resistant construction techniques were used. It is almost always cheaper and easier to build these features into new homes than to add them later.

## For more information . . .

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community.

Download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

## More Federal Resources

US Environmental Protection Agency (EPA)
www.epa.gov/radon

## Other Resources

State Radon Contacts
1-800-438-4318 (Indoor Air Quality Information Clearinghouse)

National Radon Hotline to order radon test kits
1-800/SOS-RADON (1-800-767-7236)

National Safety Council and EPA Radon Hotline with an operator to answer questions about radon
1-800-55RADON (1-800-557-2366)

Radon Fix-it Hotline
1-800-644-6999

Spanish Language Radon Hotline
1-800-725-8312

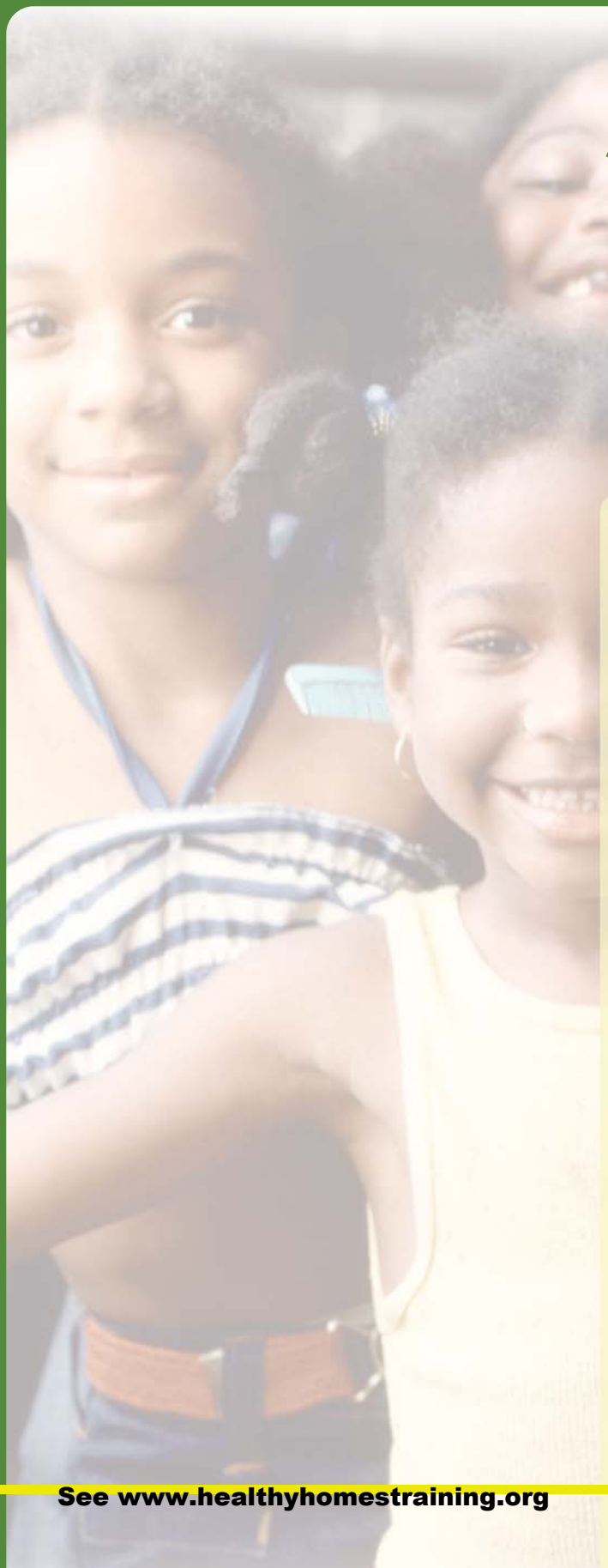
American Lung Association
www.lungusa.org

**Radon test kits are available at hardware stores or by mail**


[1]U.S. Environmental Protection Agency "Indoor Air- Radon" www.epa.gov/radon August 25, 2004
[2]U.S. Environmental Protection Agency "Assessment of Risks from Radon in Homes" www.epa.gov/radon/risk_assessment.html August 25, 2004

# SAFE PEST CONTROL

U.S. Department of Housing and Urban Development • Office of Healthy Homes and Lead Hazard Control



*"For years, cockroaches have defeated our best efforts to get rid of them. We sprayed and sprayed, but they always came back. Now we understand there are better methods and products that really work"*

Environmental Health Watch

## Did you know...?

- Many pesticides for home use are toxic?
- There are alternative pest management methods that limit the use of toxic substances?
- Mice, cockroaches, and cockroach "dust" can trigger asthma attack?

## What is it?

Integrated pest management (IPM) is a way to remove pests, like cockroaches, mice, and rats from a home. IPM is a common sense approach that:

- Denies pests food, water, shelter and a way to enter the home.
- Uses baits and powders, such as gel baits, traps and borate powder.

## Why use IPM?

- IPM is safer. IPM does not use as many harmful pesticides as traditional pest control.

  - Avoiding pesticides is especially important in homes. Pesticides can contain long lasting, toxic chemicals or lung irritants that cause asthma attacks. Children are among those most vulnerable to exposure. IPM strategies apply pesticides only as needed and use the least hazardous pesticides to control pests.

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# SAFE PEST CONTROL

**Non-toxic traps can be part of an IPM strategy.**

*Photo by: January E. Jones, Improving Kids' Environment*

- IPM works better. IPM is better at keeping the roaches and other pests away for long periods of time compared to spraying of pesticides or other poisons. IPM works by addressing the cause of the problem and taking a long-term approach to reducing pests. Using pesticides can cause pests to build up a resistance to the poison so that the chemicals do not work as well over time, and do not stop the pests from coming back to your home.

## What you can do

**Look.** Pay attention to where there are pests in your home, how they enter, and how many there are. By watching and tracking pests in your home, you can better decide what actions to take.

**Keep a clean home.** Keeping a clean house is the best way to keep pests out. Some important things to pay attention to are:

- Clean-up food and drink spills right away.
- Remove clutter (such as cardboard boxes or paper) so pests have fewer places to hide.
- Put food in tightly sealed containers, such as plastic with tight lids. Do not leave open containers of food on counters or in cabinets. Put pet food dishes away overnight.
- Keep trash in a closed container and take it out frequently—every day if possible. Don't let trash pile up outside.
- Fix plumbing or other water leaks. Pests need water sources to survive.
- Seal cracks and holes. Use a caulk gun to seal cracks around baseboards, shelves, pipes, sinks, and bathroom fixtures.

**Use roach baits properly and only if necessary. Place baits out of the reach of children and pets.**

- Put the bait close to the pests' hiding places. It must be closer than other sources of food.
- Good spots for baits are next to walls, baseboards, under sinks, in cabinets and near plumbing fixtures. Place baits in areas of roach activity.
- Do not spray any pesticides. This will keep the pests away from the baits.

**If needed, call a pest control professional who uses IPM practices.** If you have taken all the steps described above and still have a pest problem, you may need a professional to help.

- If you live in an apartment or rent a home, speak to your landlord or property manager about using an IPM professional. Talk to other tenants about the importance of IPM for long-term solutions to your building's pest problems.
- IPM professionals utilize various methods to identify, monitor, and solve the pest problem without using lots of pesticides.

### For more information…

Visit HUD's website at www.hud.gov/offices/lead for more information about addressing health hazards in homes or to learn if HUD has a Healthy Homes program in your community. From this website, you can download a copy of "Help Yourself to A Healthy Home" for more practical steps you can take to make your home a healthy home.

### Other Federal Resources

US Centers for Disease Control and Prevention
www.cdc.gov/od/oc/childhealth

US Environmental Protection Agency
www.epa.gov/children

### Other Resources

Environmental Health Watch has several resources on IPM and cockroach control
www.ehw.org

Children's Environmental Health Coalition's HeatlheHouse also has several resources on using IPM in the home
www.checnet.org/healthehouse/

**Place baits near baseboards, out of reach from children.**

*Photo by: January E. Jones, Improving Kids' Environment*