

Kansas Healthy Homes and Lead Hazard Prevention Program

2009 Kansas Blood Lead Testing and Case Management Guidelines for Children and Adults



Kansas Healthy Homes and Lead Hazard Prevention Program
1000 SW Jackson St. Suite 330
Topeka, KS 66612
1-866-865-3233
www.kshealthyhomes.org



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Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

DEPARTMENT OF HEALTH
AND ENVIRONMENT

www.kdheks.gov

Division of Health

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Dear Health Care Provider:

The Kansas Healthy Homes and Lead Hazard Prevention Program (KHHLHPP) is pleased to make available the ***2009 Kansas Blood Lead Testing and Case Management Guidelines for Children and Adults***.

This year we enter our second decade of work specifically designed to eliminate lead poisoning in Kansas. Our primary goal continues to be the protection of Kansas children. However, we also acknowledge the public health credo that an individual's relationship with their environment directly impacts their health and to that end we have expanded our scope into the realm of Healthy Homes. As a program KHHLHPP will continue to be the primary source of accurate information on lead hazard awareness and lead hazard reduction activities in Kansas.

The risk of lead poisoning in Kansas remains constant. Our homes continue to represent a significant source of risk for lead poisoning as census data reflects that nearly 72% of Kansas homes were built before 1978. The manifestation of new lead hazards in toys, clothing, jewelry and other household items has focused attention on a problem we have known was serious for many years. The true tragedy of lead poisoning in children is that it remains 100% preventable but annually hundreds of Kansas children continue to be poisoned.

Today more than ever we need solid partnerships with health care providers and local health departments. You provide vital links in the chain of prevention, education, outreach and testing. The ***2009 Kansas Blood Lead Testing and Case Management Guidelines for Children and Adults*** has been designed to assist you as you help increase screening rates, promote healthy home environments and assist in follow-up and case management care for children with elevated blood lead levels across Kansas.

Our emphasis remains on children under six years of age and at high risk based upon demographic factors. We know that there is no safe level of lead allowable in the human body. KHHLHPP will continue active case management on children confirmed to have elevated blood lead levels greater than or equal to 10 micrograms per deciliter. We are proud that the guidelines also address the adults of our state who are exposed to lead. Beginning in 2009 we will provide education and out reach to adults threatened by lead in the workplace to insure that their families remain safe. We are seeking to eliminate accidental poisonings that may occur through transference of lead from work to home.

Early identification and primary prevention are our greatest assets in preventing lead poisoning. A blood lead test remains the **only** way to tell if a child has an elevated blood level and you are the vital partners that help us quickly and efficiently find Kansas children in peril.

Thank you for your work and commitment. If you have any questions regarding these guidelines please call KHHLHPP toll-free (866) 865-3233 or visit our website: www.kshealthyhomes.org.

Sincerely,

Thomas Langer, Acting Director
Kansas Healthy Homes & Lead Hazard Prevention Program

BUREAU OF CONSUMER HEALTH - Kansas Healthy Homes and Lead Hazard Prevention Program
CURTIS STATE OFFICE BUILDING, 1000 SW JACKSON ST. STE 330, TOPEKA, KS 66612-1368
Voice: 785-368-7391 Fax: 785-296-5594 Email: lead@kdheks.gov

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Summary of Guidelines



Children

- All children are recommended to be tested at 12 and 24 months. Children receiving Medicaid are required to receive a blood lead test at 12 and 24 months.
- If a child receives a test result at 10 $\mu\text{g}/\text{dL}$ or above, a confirmation test will be requested if the initial test was not a venous.
- After a child has a confirmed BLL of 10 $\mu\text{g}/\text{dL}$ or above, case management begins. The child and his/her family is eligible to receive an environmental investigation to identify any lead hazards in their home. If you find that your county or office has an elevated child, please let our office know immediately.
- A case will remain open until two BLL's below 10 $\mu\text{g}/\text{dL}$ have been taken within a 12 week time period. Retesting schedules based on initial BLL can be found on page 7 of this manual.



Adults

- Adults who may have lead exposure in their occupation or hobby are recommended to be tested on a yearly basis.
- If an adult receives a test at 25 $\mu\text{g}/\text{dL}$ or above, a confirmation test will be requested if the initial test was not venous.
- After an adult has a confirmed BLL of 25 $\mu\text{g}/\text{dL}$ or above, case management begins. Case managers from KHHHPP will contact the adult to complete a survey of possible hazards they encounter. Case managers will also suggest testing for other family members that may be affected, especially children and pregnant women. Managers will also assess if a report to KDOL or OSHA is necessary to protect the adult and other employees.
- A case will remain open until an adult has two BLL below 25 $\mu\text{g}/\text{dL}$ within a 12 week time period. Retesting schedules based on initial levels can be found on page 8 of this manual.

Follow Up and Case Management Schedules



Adult Case Management Recommendations For Ages 16+

Blood Lead Level	Confirmatory Blood Test	Chelation Therapy (A)	Blood Level Retest	Referrals (B)	Lead Education (C)	Case Management (D)
0-24 µg/dL	no	no	Yearly	no	no	no
25-39 µg/dL	YES	no	See Retest Chart Below	YES	YES	YES
40-69 µg/dL	YES	no	See Retest Chart Below	YES	YES	YES
70 µg/dL or greater	YES	See physician for further information	See Retest Chart Below	YES	YES	YES

Explanation of Recommended Medical and Case Management Actions

- (A) Chelation Therapy: Options should be discussed with your doctor before treatment begins.
- (B) Referrals: Contact KHHLHPP to assist in case management and retesting schedules
- (C) Lead Education: Patient should be given information materials concerning lead and health.
- (D) Case Management: Case management includes follow up by coordinators at KDHE and may include notification of lead level and employment information to OSHA and KDOL. If a test is received please contact KHHLHPP for further information.

Retest Chart

Use this chart to determine retest intervals for confirmed adult poisoning cases

If the adult's last confirmed BLL was...	Retest Intervals	Other Action
0-24 µg/dL	Yearly	None
25-39 µg/dL	1-3 months	See Above
40-50 µg/dL	1-2 months	See Above
50 µg/dL or greater	Every 2 weeks until level reaches at or below 40	See above and Consult with physician for possible treatment plans

Retesting should continue until two blood lead levels below 25 µg/dL within 12 weeks have been obtained, and proper follow-up has been completed.

Child Follow up and Case Management Schedule

Risk Assessment Questionnaire

1. Does your child live in or regularly visit a house or apartment built before 1960?
2. Does your child live in or regularly visit a house or apartment built before 1960 with ongoing, previous, or planned renovation?
3. Have a family member with an elevated blood lead level?
4. Interact with an adult whose job or hobby involves lead? (battery factory, steel smelter, stained glass)
5. Does your child live near a battery plant, lead smelter, or other lead industry?
6. Does your family use pottery, ceramic, or crystal wear for cooking, eating or drinking?

If the answer is YES or UNKNOWN to any of the questions, a blood lead test is necessary!

If the child is on KBH: A test must be completed at 12 and 24 months, and up to 72 months if never tested *regardless of their risk factors.*

*The risk questionnaire is not a substitute for a blood lead test. The questionnaire is a resource tool to find additional children at risk for lead poisoning.

Blood Lead Levels	Confirmatory Blood Lead Test	Chelation Therapy (A)	Blood Lead Level Retest	Referrals (B)	Lead Poisoning Education (C)	Environmental Investigation (D)
<10 µg/dL	no	no	Within 1 year	no	YES	no
10-14 µg/dL 15-19 µg/dL	Within 1-3 months, Venous	no	See retest chart below	YES	YES	YES, within 1 month
20-24 µg/dL	Within 2 weeks, Venous	no	See retest chart below	YES	YES	YES, within 2 weeks
25-44 µg/dL	Within 1 week, Venous	no	See retest chart below	YES	YES	YES, within 72 hours
45-69 µg/dL 70 µg/dL or higher	Immediately	YES	See retest chart below	YES	YES	YES, within 48 hours

Explanation of Recommended Medical and Case Management Actions

- (A) Chelation Therapy: If chelation therapy is indicated, the child should be immediately removed from the hazardous environment until the child's environment is made lead-safe.
- (B) Referrals: Contact local health department and/or KHHLHPP to assist in case management and environmental investigations.
- (C) Notify parents using "Your Child's Blood Lead Level" form (included in Appendix). Provide family with lead educational materials and the "Helpful Hints to Reduce Lead" handout (included in Appendix).
- (D) Complete within given time frame. All confirmed cases must have EBL questionnaire completed. However, levels should be prioritized based on EBL question responses.

Retest Chart

Use this chart to determine when to retest children who are confirmed cases.

If the child's last confirmed BLL was...	First 2-4 tests after confirmation	After BLL begins to decline
0-9 µg/dL	1 time per year up to 72 months	
10-19 µg/dL	1-3 months	6 months
20-24 µg/dL	1-3 months	1-3 months
25-44 µg/dL	2 weeks-1 month	1 month
45-69 µg/dL	As soon as possible	Chelation with subsequent follow up
≥ 70 µg/dL	As soon as possible	Chelation with subsequent follow up

Retesting should occur until 2 blood lead levels are less than 10 µg/dL within 12 weeks, all lead hazards have been identified, housing is made lead-safe and no new exposure exists.

Information about Environmental Investigations

Who receives environmental assessments?

All children with a BLL ≥ 10 $\mu\text{g}/\text{dL}$ venous or 2 BLLs of ≥ 10 $\mu\text{g}/\text{dL}$ venous or capillary within 12 weeks.

Who to contact for Environmental Investigations?

Local Health Department or the Kansas Healthy Homes and Lead Hazard Prevention Program 1-866-865-3233

(An Elevated Blood Lead Level Investigator certified by the state of Kansas will conduct the Environmental Investigation)

What is assessed?

Dust, paint, exposed soil and other media in the child's environment

When does the Environmental Investigation begin?

Environmental investigation time varies depending on BLL. The questionnaire needs to be completed for all children, however actual investigations will be prioritized according to BLL.

Where is the Environmental Investigation completed?

The child's home and other sites where the child spends significant time

Components of an Environmental Investigation include:

- Obtain an exposure history.
- Visually inspect the residential environment.
- Communicate results.
- Measure lead levels in house dust, paint, and bare soil by certified lab analysis.
- Control immediate hazards
- Relocate occupants, when needed.
- Monitor ongoing interventions to reduce exposure to lead sources.
- Monitor for unidentified lead sources.

Goal of Environmental Investigations:

alert parents/caregivers of
potential lead hazards and how
to control the lead hazards identified.

Identification of lead hazards is helpful only if:

- * Measures to protect the children are taken immediately
- * Identified hazards are controlled in the children's environment
- * Support of home owner and/or tenant is readily available when appropriate

EBL Child Home Environmental Assessment





Home Environment Assessment and Plan for Care

Name of Certified Risk Assessor: _____

Title: _____

Agency: _____

Other Personnel Present: _____

Name of child/children with EBL: _____

DOB: _____

Gender: M F

Date Referred to Case Management: _____

First Date of Contact: _____

EI Date: _____

Parent/Guardian Name: _____

Child's Primary Address: _____

Home Phone: _____

Work Phone: _____

Cell Phone: _____

Emergency Contact Name: _____

Phone: _____

Physician Name: _____

Physician Address: _____

Physician Phone: _____

Physician Fax: _____

First Date of Residency at primary address: _____

Date Home/Apartment Was Built: Before 1950* 1950-1978* After 1978
Unknown

Is the home/apartment: Rented* Owner Occupied

(* If home/apartment was built before 1978 and lease was signed after December, 1996, have tenant complete LBP Real Estate Disclosure Questionnaire)

Landlord Information: _____

Name: _____

Address: _____

Phone: _____

Rent Assistance/Subsidies: Yes No

Subsidy Type:

Public Housing Authority

Section 8

Federal Rent Subsidy (TBRA)

Other, specify: _____

Location where EBL child spends most of his/her time when not at home:

Location (address)	# Of hrs per day	Age of Location	Condition of Location

Other children that regularly stay in the home:

Name	DOB	Gender	BLL/Date		
			1.	3.	5.
			2.	4.	6.
			1.	3.	5.
			2.	4.	6.
			1.	3.	5.
			2.	4.	6.

LEAD

Yes No Has primary residence ever been tested for any lead hazards?

Behavior and Household Risk Factors:

ED	Yes No	Does the child suck his/her fingers or thumb?
ED	Yes No	Does child put painted objects into the mouth? (Specify)
ED	Yes No	Does child chew on painted surfaces, such as old painted cribs, window sills, furniture edges, railings, door moldings, or broom handles?

ED	Yes No	Does child put soft metal objects in the mouth? (Ex: pewter, metal toy soldiers, jewelry, gunshot, bullets, beads, fishing sinkers, or items containing solder (electronics))
ED	Yes No	Does child put printed material (newspapers, magazines) in the mouth?
ED	Yes No	Does the child eat without washing hands before meals or snacks?
ED	Yes No	Are toys and pacifiers washed frequently?
ED	Yes No	Have there been any changes in the child's sleep patterns?
ED	Yes No	Have there been any changes in behavior?
ED	Yes No	Does the child have Pica tendencies?
ED	Yes No	Are imported cosmetics such as Kohl, Surma, or Ceruse used in the home?
ED	Yes No	Does the family have a dog, cat, or other pet that could track in contaminated soil or dust from outside?
ED	Yes No	Does the child take baths in an old bathtub with deteriorated or nonexistent glazing?
ED	Yes No	Does the child have access to vinyl mini-blinds? (Non-glossy, imported before 1996)
ED	Yes No	Are there draperies present with lead weights? Are any weights missing?

Occupational/Hobby Risk Factors:

ED	Yes No	Does anyone living with, or caring for the child have an occupation or hobby that could result in lead exposure? (Ex: Auto body repair, battery plant, storage or recycling, brass/copper foundry, building repair or remodeling structure or demolition, chemical strippers, oil field work, electrical soldering, explosive or ammunition manufacture, stained glass window making) Please circle occupation if applicable.
ED	Yes No	Does the child have access to the area where the activity takes place?
ED	Yes No	Are work/hobby clothes separated from the other laundry?
ED	Yes No	Are work/hobby shoes worn into the house?
ED	Yes No	Is the child held or greeted by listed individuals before they shower, change clothes or wash hands after work or hobby activities?

Name of person/relationship with occupational/hobby risk:

Dietary Risk Factors

ED	Yes No	Does the family use imported canned foods?
ED	Yes No	Is food prepared, served, or stored in containers that could release lead?
ED	Yes No	Are any of the containers homemade or imported ceramic? (Ceramic bean pot)
ED	Yes No	Does the family use home remedies, folk medicines or herbal treatments?
ED	Yes No	Does the child receive dolomite, oyster shell or bone meal as a calcium or phosphorus supplement?
ED	Yes No	Has the child had a change in appetite?
ED	Yes No	Is child suffering from nausea/vomiting?
ED	Yes No	Has the child had any changes in weight?

Number of times per day that child is eating? _____

Examples of food eaten with calcium and iron? _____

Water Risk Factors:

ED	Yes No	Is the child's primary source of water municipal? (If no, please circle primary source: private well, rural, bottled, other)
ED	Yes No	Is a filtration method in place for water used for drinking, cooking or formula preparation?
ED	Yes No	Is first-draw or hot water used for drinking, cooking or formula preparation?
ED	Yes No	Has plumbing been installed/altered within the last 5 years?
ED	Yes No	Does the home have lead pipes or copper pipes soldered with lead?

Soil Risk Factors:

ED	Yes No	Are there bare soil areas where the child likes to play?
ED	Yes No	Are there visible paint chips around building perimeters, under fences, etc?
ED	Yes No	Is there an area where ash from burned painted wood has been deposited?

ED	Yes No	Have nearby buildings or structures (bridge, water tower, etc.) been repainted or demolished within the last ten years? Distance from residence:
ED	Yes No	Is there a major roadway within two blocks?
ED	Yes No	Is the dwelling located near a lead-producing industry (Ex: battery plant, smelter, radiator repair shop, electronics/soldering industry)?
ED	Yes No	Does the family consume food grown in a garden adjacent to a painted structure?

Paint/Remodeling Risk Factors:

ED	Yes No	<p>Has there been any repainting, remodeling, renovation, window replacement, sanding or scraping painted surfaces inside or outside of the home in the last six months?</p> <p>If so, who did the work?</p> <p>If contractor or landlord performed work, did they distribute the lead pamphlet, <i>“Renovate Right: Important Lead Hazard Information for Families, Child care providers, and Schools.”</i>, and a renovation notice to the owner/tenant?</p> <p>Did you sign a form documenting your receipt of the lead pamphlet and renovation notice?</p> <p>List the contractor’s name, address, and phone number.</p>
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Lead Hazard Control Plan

You can immediately reduce lead hazards in your home with the following actions:

- Remove visible paint chips by misting surfaces before scraping and catch loose paint on plastic sheeting placed on flat surfaces below the work area. Repaint using good quality paint.
- Thoroughly clean the inside of your house with detergent and warm water. Clean all smooth surfaces. Pay special attention to troughs and windowsills. Clean the sponge or rag frequently. Change the water frequently also. Dispose of the water in sewer or septic system.
- Thoroughly vacuum with a HEPA filter vacuum and shampoo all carpeted areas.
- Keep children away from windows by moving furniture or other barriers in front of them. Keep children away from bare soil areas in the yard.

To permanently remove (abate) lead from your home, you will need to use an approved lead abatement contractor from the list we’ve included. If you have any other questions, feel free to call 1 -800-unleadedks.

Other Containments

ED	Yes No	Is the child exposed to environmental tobacco smoke? <i>Recommend: Smokefree home pledge, see attached</i>
ED	Yes No	Has the primary residence ever been tested for radon? <i>Kit included in healthy homes safety kit</i>
ED	Yes No	Is the child exposed to asbestos (old insulation) in the primary home or other locations?
ED	Yes No	Is the child exposed to volatile organic compounds (VOCs) (Ex: paints, environmental tobacco smoke, cleaning chemicals, pressed wood furniture etc.

Moisture

ED	Yes No	Are their sources for excess moisture to enter the primary residence? (Ex: poor roof, walls, windows, foundation, plumbing leaks, and damp crawlspace.)
ED	Yes No	Is there evidence of past flooding in the home?
ED	Yes No	Does the home smell of mold, or have visible mold on walls, in basement etc.

At least 3 moisture readings must be taken

Location/Reading

1. _____
2. _____
3. _____

Pest Management

ED	Yes No	Is there visual evidence of pests? (Ex: feces, actual rodents/pests, traps, pesticides)
ED	Yes No	Has the family experienced problems with pests in the past or presently? If yes, specify type:
ED	Yes No	Has the family used pesticides to try to eliminate pests in the past? If yes, specify type or brand:

Safety

ED	Yes No	Does the family have age-appropriate safety equipment for their children? (Ex: outlet covers, door knob covers, cabinet locks) <i>These items are available in the healthy homes safety kit</i>
ED	Yes No	Have any of the children had an injury caused by household issues in the last year?
ED	Yes No	Are medications, cleaning products, and other hazardous items locked and out of reach?

ED	Yes No	Are the above items locked and out of reach at other homes the child visits? (Ex: grandparents)
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Cleanliness

ED	Yes No	Is the following cleaning equipment assessable? Mop, bucket, broom, dustpan, sponges, rags, working vacuum? If no, specify which item: <i>Most of the above items are included in the healthy homes safety kit</i>
ED	Yes No	Have any of the children in the home been diagnosed with asthma? If yes, who and when were symptoms last noticed:
ED	Yes No	Have any of the children in the home ever had an allergic reaction to any of the cleaning products used in the home?

How often are the following cleaned? Please Circle.

Sweep Floors: 1X per day 1X per week 2Xper month Other: _____

Wet mop Floors: 1X per day 1X per week 2Xper month Other: _____

Vacuum Floors: 1X per day 1X per week 2Xper month Other: _____

Wash Window Sills: 1X per day 1X per week 2Xper month Other: _____

Wash Window Troughs: 1X per day 1X per week 2Xper month Other: _____

Other

Do referrals to the following need to be made? If yes, date when referral was made.

Yes No	Medicaid or other insurance?
Yes No	Primary care physician or clinic?
Yes No	Is the child current on immunizations?
Yes No	WIC or food pantry?
Yes No	SRS?
Yes No	HUD?
Yes No	Emergency Shelter?
Yes No	Head Start/Early Head Start?

Yes No	Parents as Teachers?
Yes No	Lead Safe KCK?
Yes No	Counseling/Mental Health?
Yes No	Is there a barrier to learning for the caregiver?
Yes No	Are there any language barriers?
Yes No	Are there any cultural differences that need to be overcome?

Other Referrals Made

1. _____

2. _____

3. _____

4. _____

5. _____

Disclaimer Notice: The Kansas Department of Health and Environment is not responsible for the blood lead level of the above-named child or for any condition or injury that may result from that blood lead level. This report is based on an EBL Investigation of the house and is not a complete inventory of all the lead sources that may be in the home.

Person Interviewed:

Name: _____ Date: _____

Relationship to child: _____

Signature: _____ Date: _____

Translator (if used)

Name: _____ Date: _____

Organizataion: _____

Signature: _____

Nurse:

Name: _____ Date: _____

Signature: _____ Date: _____

Risk Assessor (if different from nurse):

Name: _____ Date: _____

Signature: _____ Date: _____

Case Management Information

Copy of report sent to:

Parent/Guardian Physician Property Owner (if applicable)

HHLHPP LHD Case Manager EPA

Please check and date when complete:

- EI Samples taken _____
- Lead poisoning explained to family _____
- Healthy homes safety kit given/installed _____
- Brochures given _____
- Retesting schedule explained/given _____
- Results received from EnviroHealth Inc. _____
- Report mailed _____
- Follow up (verbal or home visit) _____

Child's Blood Lead Level History

Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____
Results: _____	C/V Date: _____	Results: _____	C/V Date: _____

Lead-Based Paint Real Estate Disclosure Questionnaire

Date: _____

Residence/Unit Street Address: _____

City: _____ State: _____ Zip: _____

Name of Tenant: _____

Home Phone #: _____

Other Phone #: _____

Date Tenant Rented (or purchased) the Residence/Unit: _____

Name of Landlord (or Seller): _____ Phone#: _____

Landlord's (or Seller's) Street Address: _____

City: _____ State: _____ Zip: _____

Federal regulations require landlords or sellers of housing built before 1978 to disclose their knowledge of the presence of lead-based paint in the residence/unit to tenants, and to provide tenants with the federal pamphlet **Protect Your Family From Lead In Your Home** before they become obligated under a lease or sales contract.

Tenant/Resident: Please answer the following two questions in regard to your current lease or purchase:

Before renting the apartment to you (or before you purchased the residence) ...

- Did your landlord or seller have you sign a form containing information about lead-based paint?
- Did your landlord give you a pamphlet titled **Protect Your Family From Lead in Your Home?**

Yes ____ No ____ Not Sure ____ Yes ____ No ____ Not Sure ____

* Tenant's Signature: _____ Date: _____

* By signing above, I the tenant give my permission to the Health Department to provide the United States Environmental Protection Agency (EPA) with a copy of this form and any other records relating to lead-based paint inspections of the property and/or medical blood-lead testing of myself or my children. Although this authorization expires five years from today's date, I am aware that I may withdraw my authorization at any time for any reason, and that I am not required to sign this authorization in order to receive any services or benefits from the Health Department. I understand that EPA plans to use the information for public health purposes and determining compliance with federal regulations, and that EPA may re-disclose the information on a limited basis to further such purposes.

Information Taken By: _____ Risk Assessor, or Health Nurse
(Name/Signature)

Organization: _____ County Health Department
(County)

Was lead-based paint detected? Yes ____ No ____

Lead Poisoning Information



Lead Poisoning Information

LEAD POISONING AND PREVENTION: Lead poisoning is a preventable pediatric health problem affecting Kansas' children. Lead is a toxic metal that produces many adverse health effects. It is persistent and cumulative. Childhood lead poisoning occurs in all population groups and income brackets. The Center for Disease Control and Prevention (CDC) estimates the risk of lead poisoning is highest for minority children from low-income families. There is no safe level of lead. Early identification and treatment of lead poisoning reduces the risk that children will suffer permanent damage. A blood lead test is the only way to tell if a child has an elevated blood level.

PATHWAYS TO LEAD EXPOSURE: Inhalation and ingestion.

SIGNS AND SYMPTOMS: Most children are asymptomatic. Some signs and symptoms may include: headache, lack of appetite, vomiting, fatigue, anemia, stomachache, constipation, or seizures.

HEALTH EFFECTS: Lead travels through the blood to every organ in the body. Lead interferes with the development of the architecture of the brain, as well as the biochemical connection between the cells of the brain. When lead enters the blood stream it collects in soft tissues of the body and it also settles in the bones and teeth, where it is stored for many years. Lead poisoning can be difficult to recognize and can damage a child's central nervous system, brain, kidneys, and reproductive system. Even low levels of lead are associated with decreased intelligence, impaired neurobehavioral development, decreased stature and growth, and impaired hearing acuity.

Pregnant Women, fetuses, infants, and children are more vulnerable to lead exposure than adults since lead is more easily absorbed into growing bodies. There are several reasons for this:

- During pregnancy, lead has the ability to pass through the placenta to the developing fetus and the mothers hormone changes can demineralize bone which releases lead into the blood.
- In pregnant women, elevated lead levels can cause low birth weight or miscarriage.
- The uptake of lead by a fetal brain is greater during gestation than that occurring after birth.
- In children, the developing brain has not yet completely formed the crucial blood-brain barrier, the "selective gate" which helps block toxins from the brain in adults, therefore, lead can pass directly from the bloodstream into the brain.
- For every 10 $\mu\text{g}/\text{dL}$ increase in blood lead levels, a child's IQ is lowered by four to seven points.
- Children are more likely to play in areas where they can be exposed to lead and are more likely to put contaminated hands, fingers, and objects into their mouths.

LEAD ABSORPTION:

- Adults: Approximately 5-15% of ingested lead is absorbed.
- Children: Approximately 50% of ingested lead is absorbed.

SOURCES OF LEAD EXPOSURE: Lead-based paint can be found in most homes built before 1950-and many homes built before 1978. The federal government banned lead-based paint from housing in 1978. According to the 2000 US Census Data, approximately 72% of the homes in Kansas were built before 1978. Even though lead has been banned from residential paint for over 25 years, it can still exist under other layers of paint or wallpaper.

There are many ways people can be exposed to lead. Research suggests that the primary sources of lead exposure are through:

- Deteriorating lead-based paint
- Lead contaminated dust
- Lead contaminated soil

Lead can also be found on walls, woodwork, floors, windowsills, eating and playing surfaces, or in the dirt outside the home. Sometimes children will eat paint that is chipping or peeling because it tastes sweet or because they have pica (a condition characterized by eating non-food items).

In addition, renovation or maintenance projects that disturb lead-based paint can create a lead dust hazard that can be inhaled or can settle on toys, walls, floors, tables, carpets or fingers. Lead can be found in aging water pipes and non-glossy vinyl window blinds made before 1996. Parents whose hobby or occupation involves working with or around lead (car repair, battery manufacturing, welding, making bullets, staining glass, refinishing furniture, remodeling, etc.) can unknowingly bring lead dust home. Certain ethnic, traditional or home remedies also involve lead ingestion. For example, some cultures-unaware of the risks of lead poisoning-use the powders *Azarcon*, *Greta*, or other home remedies that contain lead, to relieve an upset stomach.

Lead poisoning is a threat to children all year long; however, in spring and summer, we expect a greater exposure to lead dangers because of the activities associated with warmer weather. One early sign of spring is open windows and doors. Windows and doors painted with lead paint create lead dust when opened and closed repeatedly. Another sign of warm weather is children playing outside. Lead may be found around yards and in soil where children play. Finally, spring is often a time for starting home renovations and repairs, which may disturb lead paint and create lead dust.

Parents can protect their children from lead poisoning. Cleaning dusty areas of the home with a wet cloth and warm soapy water, is one way to safely remove lead dangers. (See Appendix 3: *Helpful Hints to Reduce Lead*)

NUTRITION: A diet low in fat and high in iron/protein, calcium and vitamin C can reduce the lead the body absorbs. A diet that lacks these nutrients can cause the body to increase lead absorption.

BLOOD LEAD COLLECTION

The Kansas Division of Health and Environmental Laboratories (DHEL) provides different methodologies for blood lead sample collection at no cost to Kansas providers for children six years of age or under.

DHEL methodologies include: collection of a venous sample, collection of a capillary sample using a capillary tube (microtainer or vacutainer), collection of a capillary sample placing blood drops on filter paper, and collection of a capillary sample and using the Lead Care analyzer. Supplies must be ordered on a “Requisition for Laboratory Specimen Kits” available on the Kansas Healthy Homes and Lead Hazard Prevention Program website: www.kshealthyhomes.org

Facilities may only submit samples for children older than six if they are a part of ongoing active investigation to follow-up on a previously positive result.

FILTER PAPER SAMPLES

Collection technique is of primary importance when obtaining samples for blood lead. Lead is everywhere in the environment. Take great care in efficiently cleaning the specimen finger of the patient and to prevent contamination from the environment. If possible, wash hands with warm water and soap prior to collection.

Please follow this collection technique to ensure a sample that is free from contamination and adequate for optimum analysis:

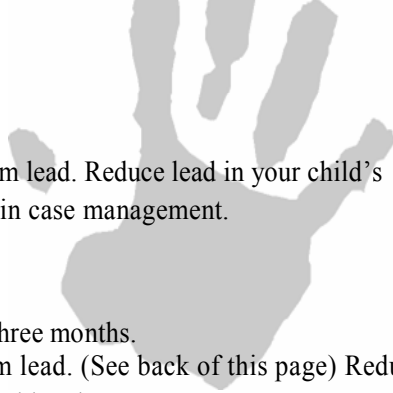
1. Fill out lab requisition form completely.
2. Lay white paper towel out on a clean surface. (Brown/recycled paper towel may contain lead)
3. Place gauze on paper towel.
4. Open alcohol wipes. Place them on paper towel.
5. Place band-aid on the paper towel.
6. Fold back protective cover to expose the filter paper. Secure the flap behind the filter paper so that it doesn't get in the way of collecting your sample.
7. Put on powder-free gloves.
8. Isolate child's finger and thoroughly scrub side of finger with the two alcohol wipes. Wipe dry with clean gauze. (If child touches that site to any surface you must re-clean area with your cleanest alcohol wipe.)
9. Use lancet to pierce the skin of the prepped finger. Wipe off first drop of blood with gauze.
10. Allow one blood drop to accumulate and fall onto one of the circles on the filter paper. Collect a second drop on the second circle and a third drop in the third circle. It may take a minute to get a sufficient drop of blood.
 - * One drop of blood per circle.
 - * Drops must be at least the size of a hole punch.
 - * The drops must soak through the back of the filter paper. Smear samples that do not soak through the back will not be accepted.
11. Please allow blood spots to dry for two hours. Carefully tuck flap to create a “matchbox.” (Pay special attention to not touch or contaminate the filter paper area.)
12. Place lab slip and filter paper into envelope.

Blood lead collection must be done properly to ensure an appropriate sample. Be sure to clean the site completely, prevent contamination, prevent clotting, and mail promptly. When sending in specimens, request forms must be completely filled out, legible, correct, request name must match tube label, and correct date of birth. All demographics must be listed on the form. Samples will be rejected for insufficient quantity, specimen clotted, and sample submission form not complete.

Your Child's Blood Lead Level

Lead can cause damage before any signs show. That's why blood lead tests are so important. Blood lead levels are measured in "micrograms" of lead per "deciliter" of blood, or "µg/dL."

Child's Name: _____ **Blood lead level** _____ **Date:** _____

- 
- Less than 9** No action is taken unless exposure sources change. Continue to test yearly.
- 10-14** Retest within 1-3 months.
Feed your child a healthy diet and help keep your child safe from lead. Reduce lead in your child's environment. See Helpful Hints to Reduce Lead handout. Begin case management.
- 15-19** Confirm with a venous blood lead test within one to three months.
Feed your child a healthy diet that will help protect them from lead. (See back of this page) Reduce lead in your child's environment. See Helpful Hints to Reduce Lead handout.
- 20-24** Confirm with a venous blood lead test within 2 weeks.
Feed your child a healthy diet that will help protect them from lead. (See back of this page) Reduce lead in your child's environment. See Helpful Hints to Reduce Lead handout.
- 25-44** Confirm with a venous blood lead test within 1 week.
Take your child for a medical exam.
Feed your child a healthy diet that will help protect from lead. (See back of this page) Reduce lead in your child's environment. See Helpful Hints to Reduce Lead handout.
- 45-69** Confirm with a venous blood lead test IMMEDIATELY:
Take your child for a complete medical evaluation immediately.
Reduce lead in your child's environment. See Helpful Hints to Reduce Lead handout.
- 70 or above** **A MEDICAL EMERGENCY.**
Get immediate medical treatment.
Contact local health department or the Kansas Healthy Homes and Lead Hazard Prevention Program to identify the lead hazards in your child's environment.

For more information contact:
Your Medical Provider, Health Department
or
The Kansas Healthy Homes and Lead Hazard Prevention Program
1-866-865-3233
lead@kdheks.gov
www.kshealthyhomes.org

A HEALTHY DIET CAN HELP PREVENT LEAD POISONING

ENCOURAGE YOUR CHILD TO EAT REGULARLY.

At least 3 times a day.

A full stomach is less likely to absorb lead.

Recommendations



**Eat Foods
High in iron
and protein**

Good sources include:

- lean red meats, chicken and fish
- leafy green vegetables (spinach and broccoli)
- dried beans, peas and lentils
- dried fruits (raisins, prunes and apricots)



**Eat Foods
High in
vitamin C**

Good sources include:

- citrus fruits and juices
- tomatoes
- raw cabbage, broccoli and greens
- potatoes and sweet potatoes



**Eat Foods
High in
calcium**

Good sources include:

- milk, cheese and yogurt
- leafy green vegetables
- salmon and sardines



**Avoid foods high
in fats
and oils**

Avoid these foods:

- fried foods such as, french fries, fried chicken and potato chips
- pastry, cakes and other baked goods
- butter, oil and lard
- hamburgers, bologna, salami, hot dogs and bacon

**For more information contact:
Your Medical Provider/Health Department
or**

The Kansas Healthy Homes and Lead Hazard Prevention Program

1 -866-865-3233

lead@kdheks.gov

www.kshealthyhomes.org

El resultado de la prueba de plomo en la sangre de su hijo

El plomo puede causar daños antes de que aparezca algún síntoma. Es por eso que las pruebas de plomo en la sangre son tan importantes. El nivel de plomo en la sangre se mide en “microgramos” de plomo por “decilitro” de sangre, o “mcg/dl”

- Menos de 9** No se toma ninguna medida a menos que cambien las fuentes o posibilidades de exposición.
Continúe los exámenes anualmente.
- 10-14** Vuelva a examinarse dentro de tres meses.
Alimente a su hijo con una dieta saludable y manténgalo alejado del plomo (Consulte el reverso de esta página)
Reduzca el acceso al plomo alrededor de su hijo. Vea el folleto Consejos Útiles Para Reducir El Plomo.
- 15-19** Confirme con una prueba de sangre dentro de 3 meses.
Alimente a su hijo con una dieta saludable y manténgalo alejado del plomo (Consulte el reverso de esta página)
Reduzca el acceso al plomo alrededor de su hijo. Vea el folleto Consejos Útiles Para Reducir El Plomo.
- 20-24** Confirme con una prueba de plomo en la sangre venosa dentro de 2 semanas.
Alimente a su hijo con una dieta saludable y manténgalo alejado del plomo (Consulte el reverso de esta página)
Reduzca el acceso al plomo alrededor de su hijo. Vea el folleto Consejos Útiles Para Reducir El Plomo.
- 25-44** Confirme con una prueba de plomo en la sangre venosa dentro de 1 semana.
Lleve a su hijo a que le hagan un examen médico.
Alimente a su hijo con una dieta saludable y manténgalo alejado del plomo (Consulte el reverso de esta página)
Reduzca el acceso al plomo alrededor de su hijo. Vea el folleto Consejos Útiles Para Reducir El Plomo.
- 45-69** Confirme INMEDIATAMENTE con una prueba de plomo en la sangre venosa:
Lleve a su hijo a que le hagan una evaluación médica completa inmediatamente. Reduzca el acceso al plomo alrededor de su hijo. Vea el folleto Consejos Útiles Para Reducir El Plomo.
- Más de 70** **EMERGENCIA MÉDICA.**
Someta de inmediato al niño a un tratamiento médico.
Comuníquese con el departamento de salud local o con el Programa Para Protección De la Niñez
- Prevencción del Envenenamiento a causa del Plomo en Kansas para identificar las fuentes o posibilidades peligrosas del plomo en el entorno de su hijo.

Para más información comuníquese con:
El Departamento de Salud de su localidad

The Kansas Healthy Homes and Lead Hazard Prevention Program

1 -866-865-3233

lead@kdhhs.gov

www.kshealthyhomes.org

UNA DIETA SALUDABLE PUEDE AYUDAR A PREVENIR ENVENENAMIENTO CON PLOMO

Todos los niños se pueden beneficiar al comer alimentos que son:

Altos en hierro y proteínas

Buenas fuentes incluyen:

- Carne roja sin grasa, pollo y pescado
- Vegetales de hojas verdes, como espinaca y brocoli
- Frijoles, chícharos y lentejas
- Frutas secas
- Pan y cereal enriquecido con hierro

Altos en vitamina C

Buenas fuentes incluyen:

- Frutas cítricas y jugos
- Tomates, repollo crudo, brocoli y verduras
- Papas y camotes

Altos en calcio

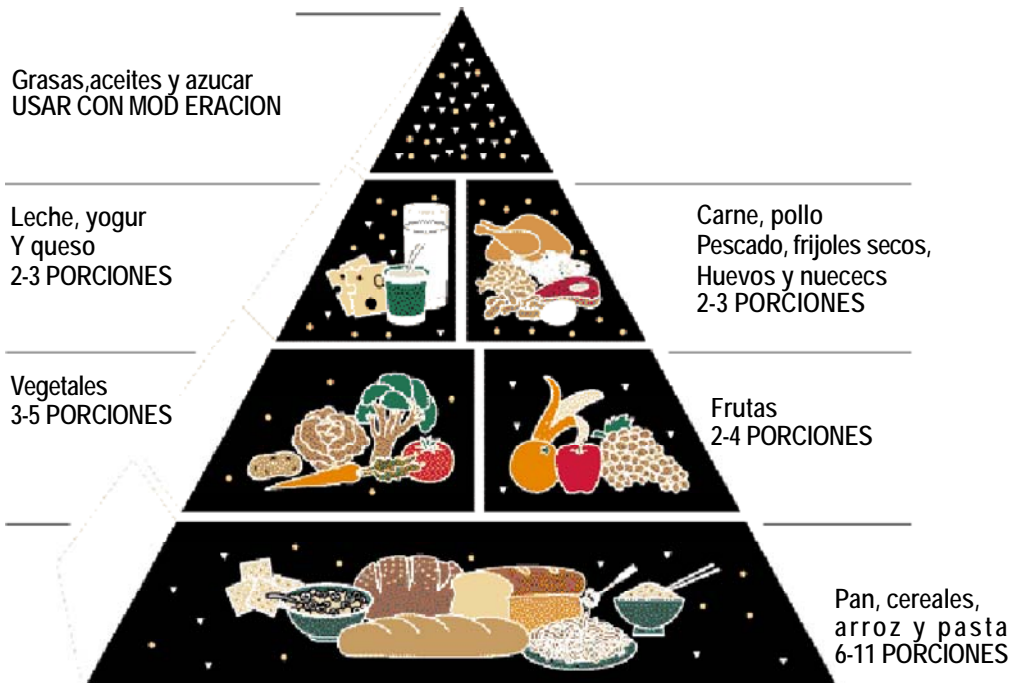
Buenas fuentes incluyen:

- Leche, queso y yogur
- Vegetales de hojas verdes
- Salmon y sardinas

Bajos en grasa y aceite

Evite:

- Comidas fritas como: tales como papas fritas, pollo frito y papitas en bolsa
- Panesitos, pasteles, repostería
- Mantequilla, aceite y manteca
- Hamburguesas, bologna, salami, hot dogs y tocino.



Helpful Hints to Reduce Lead

Lead is:

- a toxic metal
- produces many adverse health effects particularly in young developing children

How are people exposed to lead?

- deteriorating paint
- dust
- air
- contaminated soil

Where is lead found?

- window sills and troughs
- floors or steps
- carpet, rugs, and floor mats
- furniture
- radiators, grates and registers
- porches
- soil and sandboxes



The recommendations are not a one-time, permanent solution. Frequent, thorough cleaning and maintenance are essential, and so is close attention to children's hygiene and hand-to-mouth behavior. Pay close attention to what they put into their mouths, and continue to have their blood tested as often as your doctor or clinic recommends.

Warning: Lead is toxic!

Children and pregnant women should not take part in the recommendations to reduce lead exposure. When cleaning, wash hands frequently to prevent contamination or wear gloves if available.

Helpful Hints to Reduce Lead	
Lead Source	Actions to Take or Avoid
Hard Surfaces	<ul style="list-style-type: none"> • Mop floors using a disposable mop and soapy water • Clean window sills and wells with soapy water • Use disposable paper towels for lead cleaning only • Use separate buckets for wash and rinse water • Lightly spray floors with water before sweeping • Place a blanket or rug on floor when child plays there • Keep children and their belongings away from windows • Open double-hung windows from the top • Areas with chipping/peeling paint should be covered with heavy tape, paneling, heavy wallpaper, contact paper, or you can push furniture against the area

Lead Source	Actions to Take or Avoid
Carpet Surfaces	<ul style="list-style-type: none"> • Use a HEPA vacuum for cleaning, if possible. • If a HEPA vacuum is not available, use "HEPA-type" or "allergy" filter bags. • Vacuum for an extended time. • Use care if removing older carpets that are heavily contaminated with dust.
Limiting Paint Exposure	<ul style="list-style-type: none"> • Wipe off loose paint using damp disposable paper towels, cloths or rags. • Block access to chipping paint with furniture. • Put contact paper over chipping paint. • Mist areas containing loose paint chips with water, sweep up, and seal in a plastic bag and properly dispose of immediately. • Seal off or enclose areas with small amounts of chipping paint. • Do not use hazardous methods of removing paint, such as mechanical sanding, open-flame burning, or chemical removal using methylene chloride. • Use safer alternatives for removing paint, such as wet scraping and wet sanding. • When permanently removing lead, use a certified abatement contractor. For a list of certified contractors call 1-866-865-3233. • Repaint with two coats of high-quality paint. When choosing your new paint, remember that you want a cleanable surface that will hold up under frequent washings. • Do not allow children to eat loose paint or chew on windowsills or other painted surfaces.
Limiting Soil Exposure	<ul style="list-style-type: none"> • Cover bare soil with grass, plants, gravel or wood chips. • Do not let children play near walls of house or garage or on bare soil. • Have children play in grassy area or sandbox that can be covered. • Wash children's hands after playing outside or playing with pets. • Remove shoes before entering the house. • Use a doormat to reduce track-in of outdoor dust and soil.
Hygiene	<ul style="list-style-type: none"> • Wash children's hands, toys, bottles and pacifiers often. • Do not allow children to eat food off the floor.
Water	<ul style="list-style-type: none"> • Use cold water from faucet for drinking, cooking or making baby formula. • Run water from the cold for 1 minute until temperature changes.

Source: United States Environmental Protection Agency, *Basis for Educational Recommendations on Reducing Childhood Lead Exposure* (747-R-00-001) (Washington, DC: U.S. EPA, June 2000).

For more information contact:
The Kansas Healthy Homes and Lead Hazard Prevention Program
1-866-865-3233 [email: lead@kdheks.gov](mailto:lead@kdheks.gov)
www.kshealthyhomes.org

Consejos Útiles Para Reducir El Plomo

El plomo es:

- un metal tóxico
- que produce muchos efectos negativos en la salud, especialmente durante el desarrollo en los niños pequeños.

¿Cómo se exponen las personas al plomo?

- pintura en deterioro
- polvo
- aire
- agua potable
- tierra contaminada



¿Dónde se encuentra el plomo?

- los marcos y repisas
- pisos o gradas (escalones)
- alfombras y cubrepisos
- muebles
- radiadores, parrillas y registradoras
- pórticos (porches)
- tierra y cajas de arena

Las recomendaciones no son soluciones permanentes. El aseo y el mantenimiento frecuente y detallado son esenciales, además de prestar mucha atención a la higiene y a la costumbre de los niños de ponerse las manos en la boca. Preste mucha atención a lo que los niños se llevan a la boca y continúe realizándoles exámenes de sangre con la frecuencia que le recomienda su médico o clínica.

Advertencia: ¡El plomo es tóxico!

Los niños y las mujeres embarazadas no deben participar en las actividades para reducir la exposición al plomo. Cuando limpie, lávese frecuentemente las manos para prevenir la contaminación o use guantes si los tiene disponibles.

Consejos útiles para reducir el plomo

Fuente del plomo	Medidas que se deben tomar o evitar
Superficies duras	<ul style="list-style-type: none"> • Limpiar los pisos con agua y jabón. • Limpiar las repisas y marcos de las ventanas con agua y jabón. • Usar sólo toallas de papel desechables para limpiar donde haya plomo. • Usar cubetas de agua separadas para lavar y enjuagar. • Rocíar los pisos suavemente con agua antes de barrer. • Colocar una cobija o una alfombra en el piso cuando juegue ahí un niño. • Mantener a los niños y sus pertenencias alejados de las ventanas. • Abrir las ventanas desde arriba si es posible. • Las áreas con pintura que se están descascarando o soltando se deben cubrir con cinta adhesiva gruesa, paneles, papel mural o puede bloquear el lugar con muebles.

Fuente del plomo	Medidas que se deben tomar o evitar
<p>Superficies Alfombradas (carpetas)</p>	<p>Usar una aspiradora HEPA, si es posible. Si no hay una disponible, usar bolsas de filtro del tipo HEPA o para alergias. Aspirar durante un período largo de tiempo. Tener precaución al quitar alfombras viejas que estén fuertemente contaminadas con polvo de plomo.</p>
<p>Limitar la exposición a la pintura</p>	<p>Limpiar inmediatamente los pedazos sueltos de pintura. Limpiar la pintura suelta usando toallas de papel desechables o trapos húmedos. Bloquear con muebles el acceso a la pintura que se descascara. Colocar papel mural autoadhesivo sobre la pintura que se está descascarando. Rociar el pórtico (porche) con agua, barrer los pedazos sueltos de pintura y el polvo. Sellar los pedazos sueltos y el polvo en una bolsa plástica y botarla inmediatamente en la basura. Sellar o aislar áreas que contengan pequeñas cantidades de pintura que se están descascarando. No usar métodos peligrosos para remover la pintura, como lijar, quemar, o químicos que contengan cloruro de metileno. Usar alternativas seguras para eliminar la pintura, como raspar o lijar en húmedo. Usar un contratista certificado en la disminución del plomo si es necesario. Llame al 1-866-865-3233 para solicitar una lista de los contratistas certificados. Volver a pintar con dos capas de pintura de buena calidad. Al escoger la pintura nueva, recuerde que desea una superficie que se limpie y que resista los lavados frecuentes. No permita que los niños coman pedazos sueltos de pintura o que muerdan las repisas de las ventanas u otras superficies pintadas.</p>
<p>Limitar la exposición a la tierra</p>	<p>Cubrir la tierra suelta con grama, plantas, gravilla o pedacitos (chips) de madera. No permitir que los niños jueguen cerca de las paredes de la casa, el garaje o en la tierra. Haga que los niños jueguen en áreas con grama o en una caja de arena.</p> <ul style="list-style-type: none"> • Lavar las manos de los niños después de que ellos jueguen afuera o con mascotas. Quitarse los zapatos antes de entrar a la casa. <p>Usar una alfombra pequeña para limpiarse los zapatos antes de entrar a la casa.</p>
<p>Higiene</p>	<p>Lavar frecuentemente las manos, juguetes, biberones y chupetes de los niños. No permitir que los niños coman alimentos que se han caído al suelo. Almacenar los alimentos de manera adecuada.</p>
<p>Agua</p>	<p>Usar agua fría de la llave para beber, cocinar o preparar la fórmula para su bebé. Dejar correr el agua fría un minuto hasta que cambie de temperatura.</p>

Fuente: United States Environmental Protection Agency, *Basis for Educational Recommendations on Reducing Childhood Lead Exposure* (747-R-00-001) (Washington, DC: U.S. EPA, junio de 2000).
(Agencia de protección ambiental de los Estados Unidos)

Para mayor información, comuníquese con:
The Kansas Healthy Homes and Lead Hazard Prevention Program
1-866-865-3233 Correo electrónico: lead@kdheks.gov
www.kshealthyhomes.org

Healthy Homes Information





Healthy Homes

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



Seven Tips for Keeping a Healthy Home

- 1. Keep it Dry**
Prevent water from entering your home through leaks in roofing systems, rain water from entering the home due to poor drainage, and check your interior plumbing for any leaking.
- 2. Keep it Clean**
Control the source of dust and contaminants, creating smooth and cleanable surfaces, reducing clutter, and using effective wet-cleaning methods.
- 3. Keep it Safe**
Store poisons out of the reach of children and properly label. Secure loose rugs and keep children's play areas free from hard or sharp surfaces. Install smoke and carbon monoxide detectors and keep fire extinguishers on hand.
- 4. Keep it Well-Ventilated**
Ventilate bathrooms and kitchens and use whole house ventilation for supplying fresh air to reduce the concentration of contaminants in the home.
- 5. Keep it Pest-free**
All pests look for food, water and shelter. Seal cracks and openings throughout the home; store food in pest-resistant containers. If needed, use sticky-traps and baits in closed containers, along with least toxic pesticides such as boric acid powder.
- 6. Keep it Contaminant-free**
Reduce lead-related hazards in pre-1978 homes by fixing deteriorated paint, and keeping floors and window areas clean using a wet-cleaning approach. Test your home for radon, a naturally occurring dangerous gas that enters homes through soil, crawlspaces, and foundation cracks. Install a radon removal system if levels above the EPA action-level are detected.
- 7. Keep it Well-Maintained**
Inspect, clean and repair your home routinely. Take care of minor repairs and problems before they become large repairs and problems.



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.

continued on back



Types of allergies

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

Indoor and Bites	Outdoor	Foods	Medications	Insect Stings	Contact with Skin
<ul style="list-style-type: none"> ■ dust ■ dust mites ■ mold ■ pets (most often animal skin flakes or "dander") 	<ul style="list-style-type: none"> ■ pollen (from flowering trees and grass) ■ mold 	<ul style="list-style-type: none"> ■ milk ■ citrus fruits ■ eggs ■ peanuts ■ wheat ■ fish & shellfish 	<ul style="list-style-type: none"> ■ antibiotics (like Penicillin) ■ anti-seizure drugs ■ anesthetics 	<ul style="list-style-type: none"> ■ bees ■ wasps ■ hornets ■ yellow jackets 	<ul style="list-style-type: none"> ■ plants (like poison ivy) ■ cosmetics ■ skin-care products ■ jewelry ■ 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 allergies



¹Source: 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 mucus.

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

continued on back



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

¹"Asthma Prevalence, Health Care Use, and Mortality, 2000-2001," National Center for Health Statistics, Centers for Disease Control and Prevention.

²Ibid

³Centers for Disease Control. Surveillance for Asthma – United States, 1960-1995, MMWR. 1998; 47 (SS-1).

⁴Environmental Health Watch, website www.ehw.org/Asthma/ASTH_home1.htm. August 25, 2004

⁵Centers for Disease Control. Surveillance for Asthma – United States, 1980-1999, MMWR, 2002; 51 (SS-01).



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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Do not run your 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.



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

²Community 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 2002²
- Nearly 40,000 children under age 14 are injured by fires each year³

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.

continued on back

⚠️ AVERTENCIA! Este artículo contiene información sobre productos químicos que pueden ser peligrosos para la salud humana y el medio ambiente. Lea las etiquetas de los productos químicos y siga las instrucciones de uso. Mantenga los productos químicos fuera del alcance de los niños y los animales. Mantenga los productos químicos en sus envases originales y etiquetados. Mantenga los productos químicos en un lugar fresco y seco, lejos del agua y del calor. Mantenga los productos químicos en un lugar seguro y fuera del alcance de los niños y los animales.



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 inch 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.

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


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

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



SAFE PEST CONTROL

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

A photograph of three young girls of African descent smiling. The girl in the foreground is wearing a yellow tank top, the middle girl is wearing a blue and white striped shirt, and the girl in the background is wearing a dark top. They are all looking towards the camera.

“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.

continued on back



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

“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

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.

Did you know...?

■ 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.

Why use IPM?

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

Place baits near baseboards, out of reach from children.



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?

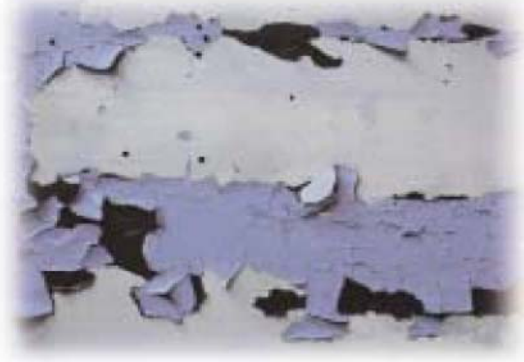
What is it?

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 arzacón, greta, or pay-loo-ah) and cosmetics (such as kohl or alkohol) 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/leadpbcd.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 (CPSC)

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.healthyindoorair.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

A young girl with dark hair and bangs, wearing a white dress, is looking out of a window. The window has white curtains and a dark handle. The background is slightly blurred, showing the interior of the house.

“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[.]” 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[.] and indoors is around 1.3 pCi[.] Even though all radon exposure is unhealthy, radon at levels below 4 pCi[.] are considered acceptable. If your home has more than 4 pCi[.] 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 contractor 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



¹U.S. Environmental Protection Agency "Indoor Air- Radon" www.epa.gov/radon August 25, 2004

²U.S. Environmental Protection Agency "Assessment of Risks from Radon in Homes"

www.epa.gov/radon/risk_assessment.html August 25, 2004

Appendices



Healthy Homes Advisory Committee

Last Name	First Name	Job Title	Company/Agency	City
Anderson	Jon	Public Health Capacity Development Manager	KDHE	Topeka
Babcock	Shannon	Case Management Coordinator	KHHLHPP	Topeka
Baker	Richard	President	Baker Environmental Consulting, Inc	Lenexa
Cotter	John	Environmental Health Services Director	Wyandotte County Health Department	Kansas City
Derks	Melody	Lead Care Manager at CMFHP	Children's Mercy Family Health Partners	Kansas City
Farmer	Bronson	Environmental Investigator	Salina-Saline County Health Department	Salina
Funk	Jo	Environmental Health Coordinator	Salina-Saline County Health Department	Salina
Langham	Alisha	Research Analyst	KHHLHPP	Topeka
Hopkins	Larry	Environmental Services Manager	Hernly Environmental Associates	Lawrence
Langer	Thomas	Acting Director	KHHLHPP	Topeka
Lowry, MD	Jennifer	Medical Toxicologist	Children's Mercy Hospitals and Clinics	Kansas City
Persley	Michael	Health and Safety Officer	KHHLHPP	Kansas City
Schumacher	Joyce	Lead Nurse	Salina-Saline County Health Department	Salina
Steele	Beverly	Kan Be Healthy Coordinator	KHPA	Topeka
Steinbauer	Shannon	Regional Case Manager	KHHLHPP	Wichita
Tabares	Gilbert	Enforcement Officer	KHHLHPP	Topeka
Weathers	Mary	Services and Access Manager	SRS	Topeka
Williams	Terrence	Healthy Homes Specialist	KHHLHPP	Kansas City
Amaro	Crystie	Data Entry Specialist	KHHLHPP	Topeka
Blass	Sue	Sr. Administrative Assistant	KHHLHPP	Topeka
Meinholdt	Jason	Enforcement Officer	KHHLHPP	Topeka
Forrest	Erica	Environmental Health Coordinator	Children's Mercy Hospitals and Clinics	Kansas City
Perkins	Sandy	Maternal and Child Nutrition Consultant	KDHE	Topeka
Sage	Cherie	Outreach Coordinator	Safe Kids Kansas	Topeka
Smith	Rex	Program Coordinator	Wichita Area Technical College	Wichita
Hastings	Carrie	Health Start Collaborator	SRS	Topeka
Shigley	Tim	President	Shigley Construction Co., Inc	Wichita
Brady	Jon	PSE II	KHEL	Topeka
Sandstrom	Stacey	Senior Laboratory Specialist	KHEL	Topeka
Swendson	Sheryl	Executive Director	Atchinson Housing Authority	Atchison
Woodruff	Warren	Rehab Supervisor	City of Topeka	Topeka
Odom	Jana	Sr. Administrative Assistant	KHHLHPP	Topeka
Hernandez	Lisa	Public Health Educator	KHHLHPP	Topeka
Baker	Richard	President	Baker Environmental Consulting, Inc	Lenexa
Miller	Michelle	Healthy Homes Regional Representative	HUD	Kansas City



Resources

LOCAL LEAD RESOURCES

Kansas Healthy Homes and Lead Hazard
Prevention Program
www.kshealthyhomes.org
1 -866-UnleadedKS (865-3233)

Shannon Babcock, LBSW
Case Management Coordinator, North and
Contract Counties
785-368-7387

Shannon Steinbauer, RN
Case Management Coordinator, South
785-256-3229

Contact your local health department for
the local lead contact.

OSHA – 1-800-362-2896

KDOL – 785-296-4386

NATIONAL RESOURCES

Centers for Disease Control and Prevention
www.cdc.gov/nceh/lead/lead.htm
(800) 311-3435

EPA National LEAD Information Center
www.epa.gov/lead/nlic.htm
(800) 424 - LEAD

The Coalition to End Childhood Lead Poisoning
(800) 370 – 5323

Alliance For Healthy Homes
www.afhh.org
(202) 543 – 1147

Department of Housing and Urban
Development
www.HUD.gov
(202) 708-1112

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