



## “SAFE AND HEALTHY HOMES: WHAT CAN BE DONE?”

A webcast by Susan Aceti from the National Center for Healthy Housing and Angela Mickalide from the Home Safety Council

Moderated by Ellen Schmidt



2:00pm – 3:30 pm EDT



On your telephone please dial 1-866-835-7973

The webcast will begin shortly.

Please be sure to mute the volume on your computer.

## National Healthy Homes Training Center and Network

Susan Aceti

National Center for Healthy Housing

Angela Mickalide

Home Safety Council



## Who NCHH is:

- Nonprofit corporation based in Columbia, Maryland
- Dedicated to creating healthy and safe homes for children through practical and proven steps.
- Over 16 years of experience in research, program evaluation, technical assistance, training, and outreach
- Supported by federal funding (HUD, CDC, EPA, DOE) and private foundation support



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## Who HSC is:

- The Home Safety Council (HSC) is the only national nonprofit organization solely dedicated to preventing home related injuries that result in nearly 20,000 deaths and 21 million medical visits on average each year. Through national programs, partnerships and the support of volunteers, HSC educates people of all ages to be safer in and around their homes. The Home Safety Council is a 501(c)(3) charitable organization located in Washington, DC.



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## Health problems related to housing conditions

- Asthma
- Allergies
- Brain damage
- Behavior & learning problems
- Lung cancer
- Injuries
- Poisonings



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Moisture / Water Intrusion



Asthma  
Exacerbation

## Why healthy housing?



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**Moisture / Water Intrusion** → **Structural Damage**

The diagram illustrates the progression from moisture intrusion to structural damage. On the left, a house is shown partially submerged in water, labeled "Moisture / Water Intrusion". An arrow points to the right, where a house is shown with significant structural damage, including a collapsed roof and exposed wooden beams, labeled "Structural Damage".

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**Structural Damage**

- Pests**
  - Images of a mouse and a beetle.
- Lead Poisoning**
  - Image of lead paint chips.
- Fire**
  - Image of flames.
- Injuries**
  - Image of a person in a cast.

The diagram shows a central box labeled "Structural Damage" with arrows pointing to four categories of hazards: Pests, Lead Poisoning, Fire, and Injuries. Each category is accompanied by a small image: a mouse and a beetle for Pests, lead paint chips for Lead Poisoning, flames for Fire, and a person in a cast for Injuries.

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**Asthma and Allergy Exacerbation**

**Pests**

**Pesticide**

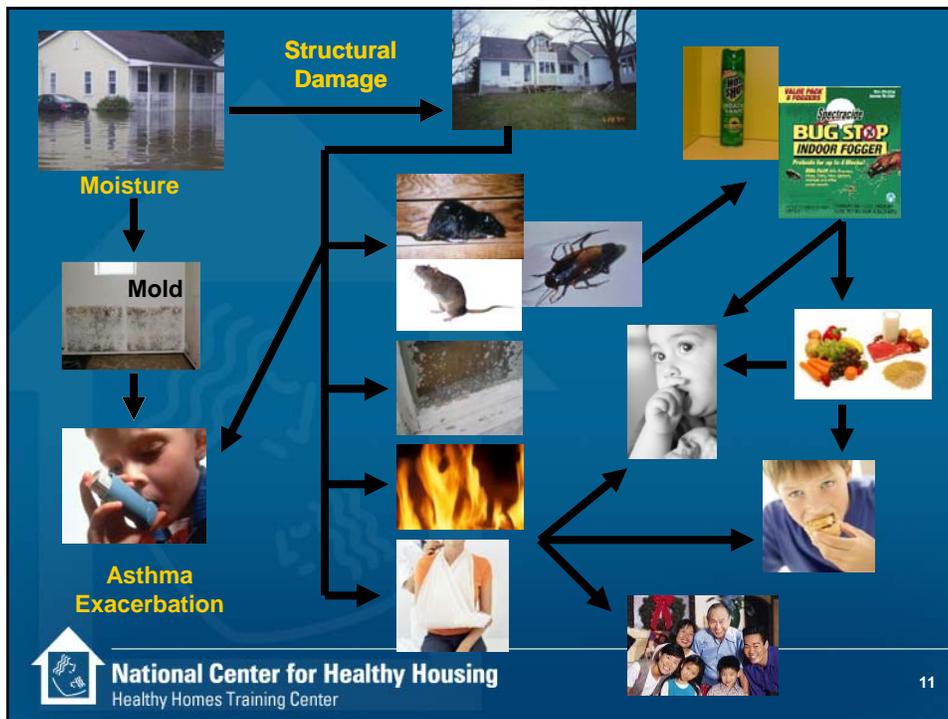
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**Pesticide**

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## Hazards in the home

### Asthma Triggers

House dust mites can cause asthma to develop, and cats, dogs, cockroaches, mice, dust mites, tobacco smoke and molds can trigger asthma attacks.









### Mold

Mold in damp indoor environments is associated with nose and throat irritation, coughing, wheezing and asthma symptoms. Some people can develop pneumonia if they are exposed to mold.



### Tobacco smoke

Tobacco smoke can trigger asthma attacks and cause cancer and death.



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# Hazards in the home

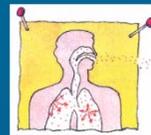
## Lead

Lead in paint, dust and soil can cause lead poisoning which can result in lowered IQ, behavior and learning problems and death.



## Radon

Radon is a naturally occurring gas that comes from the ground into a house. Radon can cause lung cancer.



## Carbon Monoxide

Carbon monoxide can build up in a house if a furnace isn't working right or an un-ventilated gas heater is used. High levels of carbon monoxide can cause headaches, dizziness, confusion and death.



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# Hazards in the home

## Injuries in the Home

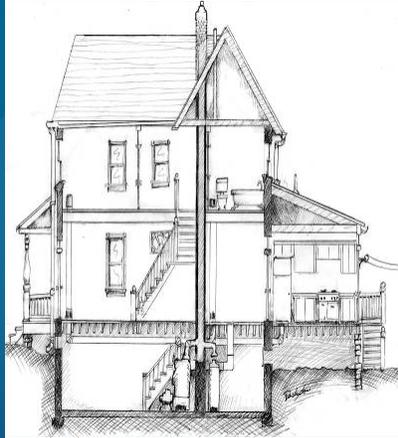
Falls, poisonings, fires, burns, choking and suffocation are the top causes of injuries in the home.



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# 7 Healthy Homes Principles



## Keep It:

1. **Dry**
2. Clean
3. Ventilated
4. Pest-Free
5. Safe
6. Contaminant-Free
7. Maintained



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# Health Problems Associated with Mold and Moisture

- Nose and throat irritation and congestion
- Coughing
- Wheezing
- Asthma symptoms
- Pneumonia (in people particularly sensitive to mold)



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## There are three ways your house gets wet



1. Rain from the **OUTSIDE** leaks through the roof, walls, foundation or basement
2. Water leaks from showers, toilets or sinks on the **INSIDE**
3. Warm air comes into contact with a cold surface such as a window, and **CONDENSATION** (tiny drops of water) forms. (*Think about what happens when you put water and lots of ice in a glass and sit outside on a warm day. What happens to the glass?*)



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## Examples of Moisture Problems – rain from the outside



Basements and crawlspaces are often damp. The moldy walls in this picture are probably from rainwater that is not directed away from the house.



Poorly managed rainwater and warm, humid outdoor air are the two most common sources of moisture in crawlspaces.



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## Keep It Dry – What You Can Do

### If you rent or own

- Use kitchen and bathroom fans.
- Wipe down shower walls after baths or showers
- If the humidity in your house is more than 50%, turn on air conditioning.
- Use a dehumidifier to dry out damp areas.
- Throw away carpeting, cardboard boxes, insulation and anything very wet for more than two days (if you rent, check with your landlord first).
- Clean up mold if the area with mold is relatively small.

### If you rent, your landlord should:

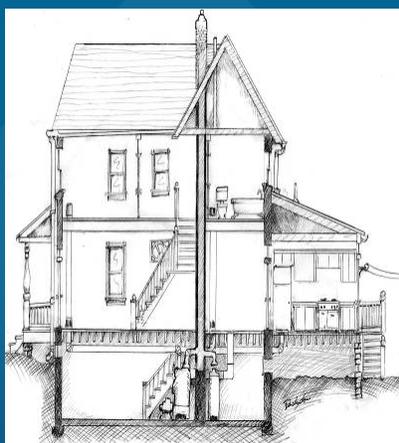
- Clean up mold
- Make sure downspouts direct water away from foundations
- Repair leaking roofs, walls doors or windows



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## 7 Healthy Homes Principles



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## Why do we want homes that are clean and easily cleanable?

- Less contact with:
  - Dust mites, mold, mice/rat/cockroaches
  - Pesticides
  - Heavy metals such as lead
- Less places for pests like mice and cockroaches to hide



## Healthy Cleaning

- Don't dry dust or dry sweep
- Vacuuming carpets:
  - A good vacuum will have a beater bar
  - The best type of vacuum to buy is a HEPA vacuum
  - Be sure to vacuum very slowly (or use vacuum with dirt finder)
- Wet cleaning:
  - Use "elbow grease"
  - Change water frequently



## Keep It Clean – What You Can Do

### If you rent or own

- Vacuum or wet clean floors.
- Use a damp cloth for dusting.
- Wash bed linens every 1-2 weeks in hot water.
- Use a walk-off mat outside of your door.
- Take your shoes off at the door.
- Use “green” cleaning products.
- Invest in a good HEPA vacuum that has a beater bar on the bottom and can be emptied quickly and thoroughly.
- Use plastic boxes to store clutter.
- Use allergen-free mattress and pillow covers as part of an effective cleaning strategy for children with asthma or allergies.

### If you rent, your landlord should:

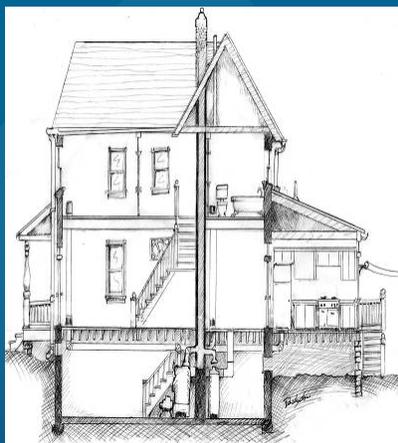
- Help with pest problems by sealing cracks and holes
- Consider hard surface floors that show dust more clearly, can be cleaned faster and can be damp mopped.



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## 7 Healthy Homes Principles



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## What does Ventilate Mean?

- Ventilating means that fresh air is circulating in the house
- It also means that the house has openings for pollution to escape from inside
- If any portion of air leaves a house the same amount must enter
- Air can be hot, cold, wet, dry, or polluted when it enters or exits a house



## Why Well Ventilated?

Good ventilation reduces hazards from:

- Moisture
- Smoke from cigarettes, cigars, incense or candles
- Allergens (such as cockroach and mice droppings)
- Mold
- Carbon monoxide
- Volatile organic compounds (VOCs)
- Radon



## Things that need exhaust ventilation

- Bathrooms
- Clothes dryers
- Kitchen ranges
- Boilers, furnaces, hot water heaters
- Fireplaces, wood burning stoves



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## Keep It Ventilated – What You Can Do

### If you rent or own

- Use exhaust fans when cooking or bathing and check that they work properly.
- Install a carbon monoxide alarm.
- Check that smoke and carbon monoxide alarms work properly. Replace batteries twice a year.
- **Never** use charcoal grills inside.
- Open a window if you use unvented kerosene or gas heaters.

### If you rent, your landlord should:

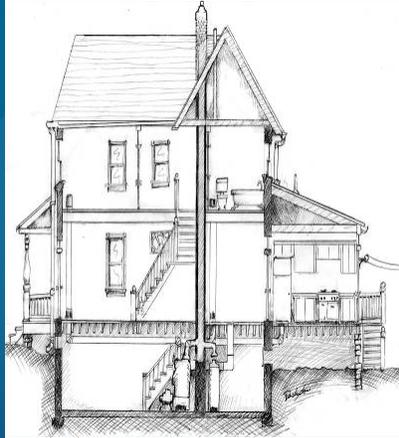
- Have bathroom and kitchen exhaust fans that vent outside.
- Install smoke and carbon monoxide alarms.
- Maintain furnaces
- Have dryers vent outside and keep vents unclogged.



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# 7 Healthy Homes Principles



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## Pests cause problems

- Trigger/cause asthma and allergies
- Bite
- Contaminate food
- Lead people to overreact and ignore pesticide labels
- Transmit disease



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## What is IPM?

- **Integrated:** Use different approaches that work together (for example, cleaning up food spills, sealing up holes underneath cupboards, using baits)
- **Pest:** Cockroaches, mice, rats
- **Management:** No more cockroaches, mice or rats



## Keep It Pest-Free – What You Can Do

### If you rent or own

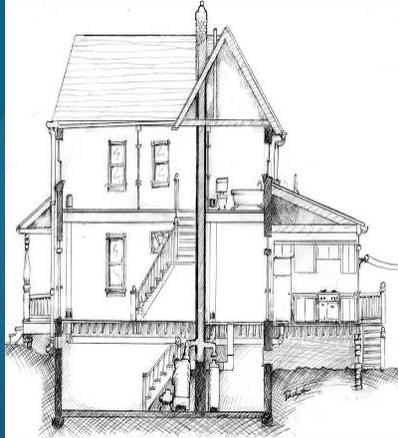
- Contact your landlord right away about pest problems.
- Clean up food or crumbs.
- Wrap food and put it in the refrigerator, or in a cabinet if tightly sealed.
- Do not leave dirty dishes out overnight.
- Sweep, mop, and vacuum regularly.
- Take garbage to the trash area at least once a week (or every day if you have pests).
- Clean up clutter that provides hiding places for pests.
- Minimize pesticide use. If you use pesticides, make sure to follow the directions on the label.
- Don't use sprays or foggers.

### If you rent, your landlord should:

- Seal holes in walls, floors and ceilings to prevent pests from coming in.
- Use baits, traps, or gels to kill pests.
- Repair water leaks or damage.



# 7 Healthy Homes Principles



## Keep It:

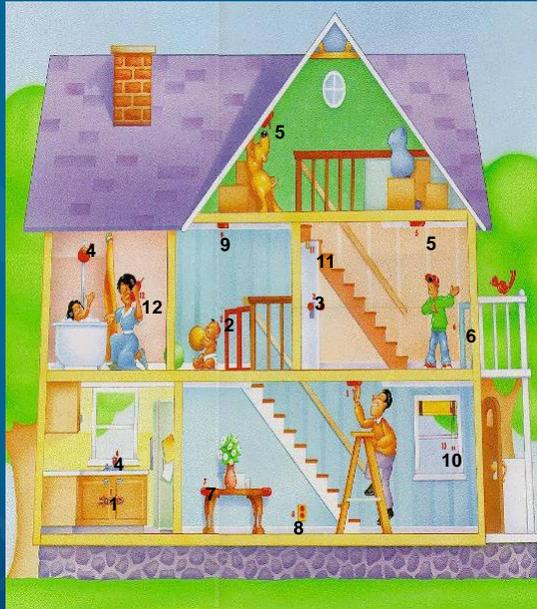
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**Keep it Safe:**  
There are many ways to be injured in the home



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## What are the most common causes of home injury deaths?

1. Falls (particularly for the elderly)
2. Poisoning
3. Fires and burns
4. Choking and suffocation
5. Drowning



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## Which age groups are most at risk?

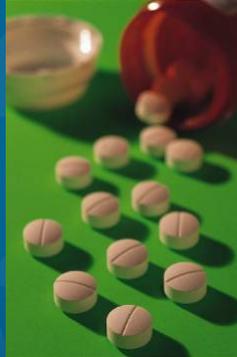
- Infants are most likely to be injured or die from choking and suffocation.
- Children up to 14 years old and seniors are most likely to be injured from falls.
- Children from 1 – 14 years old are most likely to be injured by fires and burns.
- Adults who are over 80 years old are most likely to die from any injuries in the home.



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## Poisoning



- 82% of households keep medicines in unlocked drawers or cabinets.
- 69% of homes with young children store household chemicals in unlocked areas.



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## Fires and Burns



- 75% of households do not know the temperature setting on their water heaters.
- 91% are unaware of the temperature of hot tap water.



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## Choke hazards?



## Electric shock hazard?



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## *Keep It Safe – What You Can Do*

### **If you rent or own**

- Keep floors clear of things that may cause tripping.
- Clean up spills to prevent slipping.
- Use non-skid mats and throw rugs.
- Put safety latches on cabinets and drawers with harmful products – or put products where children can't reach.
- Put a working smoke alarm near every sleeping area. Put a working fire extinguisher near the kitchen stove.
- Keep space heaters out of busy areas and away from things that could catch fire.
- Put outlet covers over unused outlets.
- Keep young children away from curtains, window-blind cords and extension cords.

### **If you rent, your landlord should:**

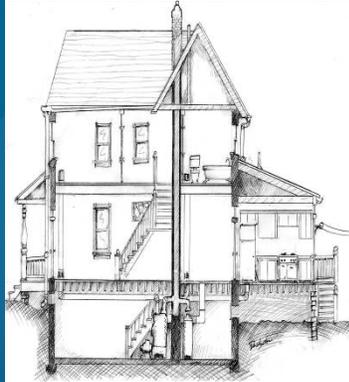
- Install smoke alarms near sleeping areas.
- Install a carbon monoxide alarm.



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# Contaminant Buying Decisions

## Intentionally Bring In

- Tobacco Smoke
- Pesticides
  - Sprays, Baits & Powders
- Volatile Organic Comp.
  - Air Fresheners & Cleaning Products
  - Glues, Sprays & Coatings
  - Building Materials
- Mercury
  - Thermostats & Fluorescent Lamps
- Asbestos
  - Building Materials
- Meth Labs

## Along for the Ride

- Bedbugs and Mice
  - Used Furniture & Mattresses
- Cockroaches
  - Cardboard Boxes & Furniture
- Mice
  - Boxes and Furniture
- Formaldehyde
  - Pressed Wood Products
- Lead
  - Used Building Supplies



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## Why Avoid Tobacco smoke: Related Health Effects



- Increases the number of episodes and severity of symptoms for children with asthma
- Risk factor for new cases of asthma in children
- Responsible for 150,000 to 300,000 lower respiratory tract infections – such as bronchitis and pneumonia - in infants and children less than 18 months of age



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## Volatile Organic Compounds

- Air Fresheners
- Cleaning Products
- Sprays & Coatings
- Formaldehyde
- Carpets
- Vinyl Floors
- Drywall
- Hobbies
- Home Maintenance



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# Why Avoid VOCs?

Potential health effects of VOCs:

- Eye, nose, throat irritation
- Headaches, nausea, coordination
- Liver, kidney, and brain damage
- Some can cause cancers
- Child development



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## Keep It Contaminant-Free – What You Can Do

### If you rent or own

- Don't smoke in the house.
- Don't smoke around children.
- Avoid using products that have high levels of volatile organic compounds.
- If you do use a product with VOCs, make sure to have fresh air circulating.

### If you rent, your landlord should:

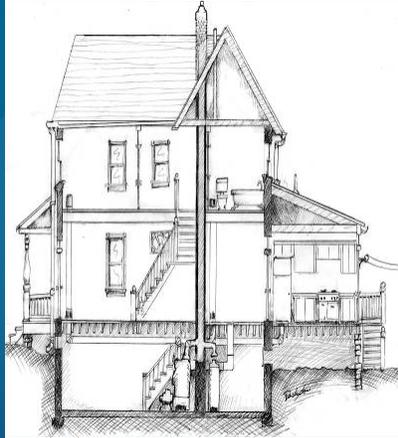
- Use low VOC paints, carpets, adhesives and other products when renovating.
- Make sure that any no smoking rules are followed.



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## Contaminant & Maintenance

### Legacy Toxics

- Lead-Based Paint
- Asbestos
  - Siding
  - Plaster
  - Insulation
- Chromated Copper Arsenate Wood
- Mercury
  - Thermometers & Fluorescent Lamps
- Pesticide Residues

### Created or Grown

- Cockroaches
- Mice and Rats
- Mold
- Carbon Monoxide
- Sewer Gas

And Then There is  
**Radon**



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## Maintenance

- Solid waste
- Water supply
- Sewer system
- Heating/cooling/dehumidification/humidification
- Cooking
- Ventilation
- Rainwater control/drainage
- Structural integrity
- Storage / Organization



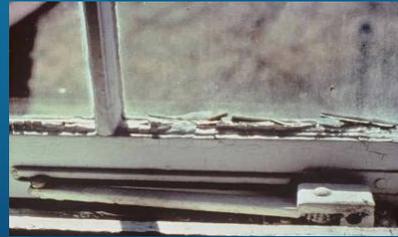
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## Lead and Lead-Based Paint

- Peeling, Chipping Paint / Deteriorated Paint
- Dust
- Soil
- Drinking water
- Consumer Products such Pottery, Cribs, Jewelry, Candle Wicks
- Cultural Items
- Contaminated Sites



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## Why Avoid Lead?

- Reduced IQ
- Learning disabilities
- Impaired hearing
- Reduced attention spans, behavior problems
- Anemia
- Kidney damage
- Damage to central nervous system
- Coma, convulsions, death



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# Lead: Age of Housing Matters

Year House Was Built	Percent of Houses with Lead-Based Paint
Before 1940	87 percent
1940-1959	69 percent
1960-1978	24 percent
All US Housing Stock	40 percent



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# Asbestos



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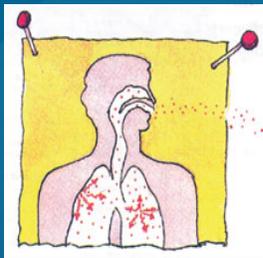
## Why avoid asbestos?

- Health effects:
  - Lung Cancer
  - Mesothelioma
  - Asbestosis
- Smokers are at greater risk!



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## Radon – A Serious Health Concern



- Radon is a naturally occurring gas produced by the breakdown of uranium and radium in ground.
- Radon
  - 2<sup>nd</sup> leading cause of lung cancer after smoking with more than 20,000 deaths annually
  - Leading cause of lung cancer in nonsmokers and people who have never smoked.



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## How Radon Gets into a Home



1. Cracks in solid floors
2. Construction joints
3. Cracks in walls
4. Gaps in suspended floors
5. Gaps around service pipes
6. Cavities inside walls
7. Other openings
8. Water supply



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## Testing for Radon

### Testing Options:

- For kits call 1-800-SOS-RADON, purchase retail, or from certified company
- Hire a professional



**Radon Data Card**  
Write Comments on Back

In order to Analyze test, all information must be filled out completely.  
Please Print Please Print Please Print

Name: John Smith Phone: 555-555-5555

Address: 1234 Main St. Apt. 101 County: Alameda

City: San Francisco State: CA Zip: 94101

Room Used For Testing:  Living Room  Bedroom  Other

Room Level:  Basement  1st Floor  2nd Floor  Other

Should Gas Measurement Date: 1/15/02 Time: 10:00 AM (Please Print)

Should Measurement Date: 1/15/02 Time: 10:00 AM (Please Print)

Reading address (Other than mailing address please enter below)

811A-1000-0000-0000-0000-0000-0000-0000

811A-1000-0000-0000-0000-0000-0000-0000



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## Keep It Maintained – What You Can Do

### If you rent or own

- Call your landlord as soon as you notice moisture, pests, or holes.
- If your toilet overflows report it to your landlord immediately.
- If you own, replace furnace filters on a regular basis.
- Clean the grease filter on your stove's range hood.
- In the spring and fall, check gutters and downspouts for clogs caused by leaves.
- Watch for freezing pipes that crack and leak. Fix if you own. Contact your landlord if you rent.
- Test children under age 6 for lead exposure.
- If your home was built before 1978 and paint is peeling or flaking, have it tested for lead.
- Before remodeling work, check for lead-based paint.

### If you rent, your landlord should:

- Fix leaks or water damaged areas.
- Fix all cracks and holes.
- Help get rid of pests.
- Maintain furnaces in good condition and replace filters on a regular schedule.
- Check gutters and downspouts for clogs caused by leaves.
- Fix pipes that have frozen, cracked and leaked.



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## National Healthy Homes Training Center and Network



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## Courses Offered

- Essentials for Healthy Homes Practitioners
- Launching a Healthy Homes Initiative
- Pediatric Environmental Home Assessment
- Integrated Pest Management in Multi-Family Housing
- Healthy Homes for Community Health Workers
- Code Inspection for Healthier Homes



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## Healthy Homes Specialist Credential

- National Environmental Health Association
- *Essentials for Healthy Homes Practitioners* as preparation
- Exam / Visual Survey – Code Exercise
- Fee - \$205, \$150, \$75
- Five Years Experience
- Private and Public Sector
- 315 have received the credential already



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## Contact Information

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