

Healthy Homes 101



EEA

**ENVIRONMENTAL
EDUCATION ASSOCIATES**

Working to make our communities healthy

Florence Nightingale



“The connection between health and the dwelling of the population is one of the most important that exists.”

Healthy Homes

- A healthy home environment promotes a quality of life, particularly for children
- Residents have a right to know of hazards in their home
- A personalized approach is effective in motivating people to improve their home environment
- Residents, through their own actions can make changes in their home to prevent illness



Housing and Health – The Connection

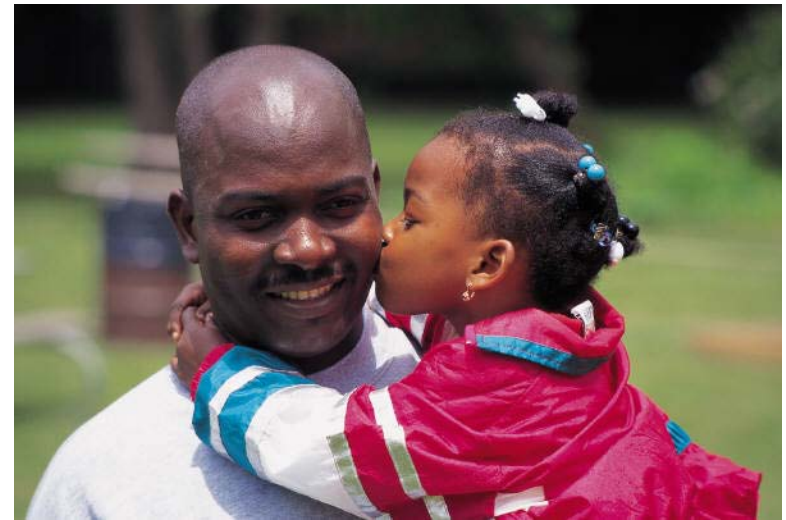
- **Most of us spend ~90% time inside our homes, workplaces, schools, & childcare facilities**
- **Homes typically account for a major share of exposures to**
 - **Toxics**
 - **Irritants**
 - **Allergens**
 - **Particles**
 - **Volatile Organic Compounds (VOCs)**
- **All can potentially lead to health effects that are both Acute & Chronic**

EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES
Working to make our communities healthy

Children at risk from indoor pollutions

- Lungs not developed at birth
 - Alveolar and epithelium development
 - Development of respiratory bronchioles
 - Immature respiratory defense
- Greater exposure than adults
 - Mouth breathing
 - Larger lung surface area per unit body weight
 - Breathe greater air per unit body weight



Major Indoor Pollutants

- Lead
- Poor IAQ
 - Second-hand smoke
 - Asthma triggers
 - VOCs & consumer chemicals
 - Carbon Monoxide
 - Mold
- Pests and pesticides
- Radon
- Mercury



Health Effects of Lead

- Damage to the brain and nervous system
 - Behavior and learning problems
 - Hyperactivity
 - Poor impulse control
 - Violence
 - Lower IQ
- Delayed growth
- Hearing problems
- Headaches



Consequences of Lead Exposure are Life-long

Sources of Lead Exposure



- Primary sources of lead exposure for most children in the US are: - deteriorating lead-based paint, - lead contaminated dust, and - lead contaminated residential soil
- Water, air, and soil, may provide low-level, “background” exposure, but rarely may cause childhood lead poisoning.
- Imported products, parental occupations, hobbies, and imported traditional medicines occasionally may cause lead exposure among children.

Avoiding Lead Poisoning

- Get kids tested for lead by a health care provider
- Run cold water until it becomes as cold as it can get. Use only cold water for drinking, cooking and making baby formula.
- **Test your home for lead paint hazards if it was built before 1978**
- **Wash children's hands before they eat; wash bottles, pacifiers, and toys often**
- **Wash floors and window sills – especially in older homes**
- Use personal protective equipment when casting lead as a hobby and ventilate space

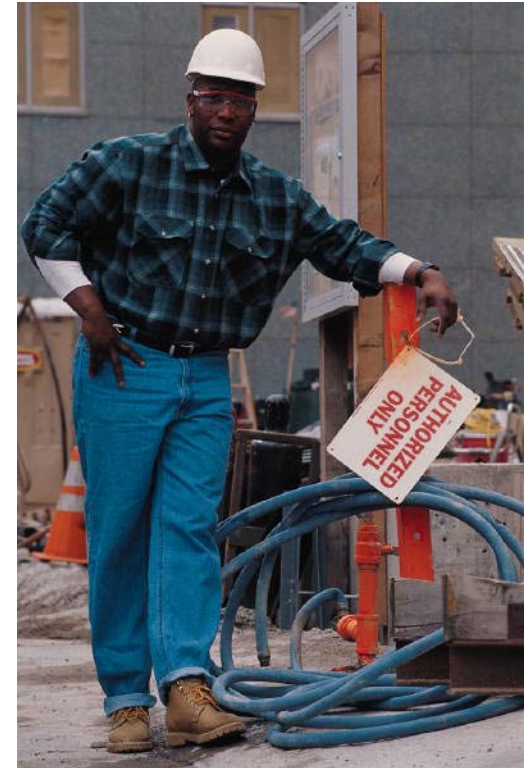
EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES

Working to make our communities healthy

Renovate Right!

- **WHEN:** Phased in requirements, starting June 2008
- **WHO:** contractors performing activities that disturb lead-based paint
- **WHAT:** Renovation, Repair, Painting projects
- **WHERE:** Child-occupied facilities (e.g. homes, child care facilities, and schools) built before 1978
- **HOW:** Must be certified and must Notify and Follow Specific Work Practices to prevent lead contamination including
 - Contain the work area
 - Minimize dust
 - Clean up thoroughly



EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES

Working to make our communities healthy

Common Indoor Air Pollutants

- Second-hand Smoke
- Asthma triggers
- Consumer chemicals: Volatile Organic Compounds (VOC), cleaners, fragrances, gels, sprays
- Molds
- Carbon Monoxide (CO)



EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES

Working to make our communities healthy

Second-Hand Smoke

Health Effects in Children

- Asthma
 - Cause
 - Exacerbate
- Sudden Infant Death Syndrome (SIDS)
- Bronchitis and Pneumonia
- Ear Infections



Common Asthma Triggers

Allergic

- Dust mites
- Molds
- Pollen
- Animal dander
- Pests

Non-Allergic

- Tobacco smoke
- Pesticides
- Wood or coal smoke
- Ozone
- Particulate matter

EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES

Working to make our communities healthy

Case in Point: Asthma

- **Burden – more than 22M people with asthma, including 6.8M kids:2M ER visits and 13M missed school days annually**
- **Significant disparities/underserved populations**
- **Environmental triggers – major risk factors: ETS, mold, dust mites, pets, and pests**
- **outdoor ozone and pest management**

EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES
Working to make our communities healthy

Consumer Chemicals



- Cleaners
- Air Fresheners
- Adhesives
- Formed Plastics

Volatile Organic Compounds

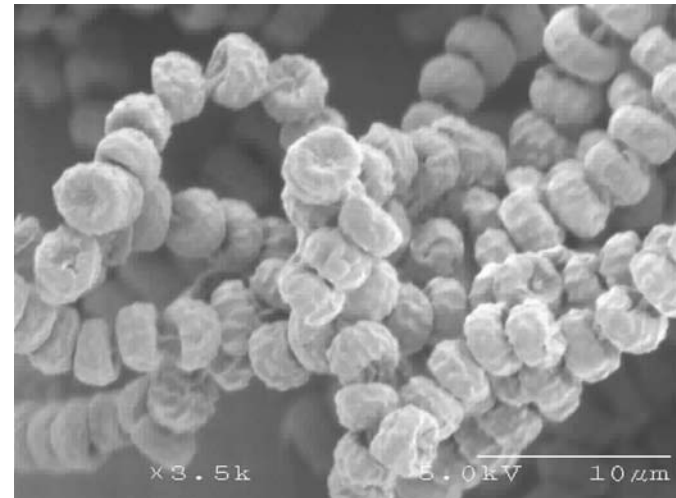
- **Lung irritants**
- **Associated with asthma attacks and migraines**
- **Formaldehyde is a lung irritant and probable carcinogen**
- **Some phthalates are endocrine disrupters**

Moisture Control is Mold Control

Mold gradually destroy the things they grow on. Prevent damage to building materials and furnishings, save money, and avoid potential health risks by controlling moisture and eliminating mold growth

Mold in the Home

- Grows when moisture is present on organic building materials
 - Wood
 - Drywall
 - Paint
 - Carpet/Wallpaper
- Releases spores as it grows
- Spores can cause health effects



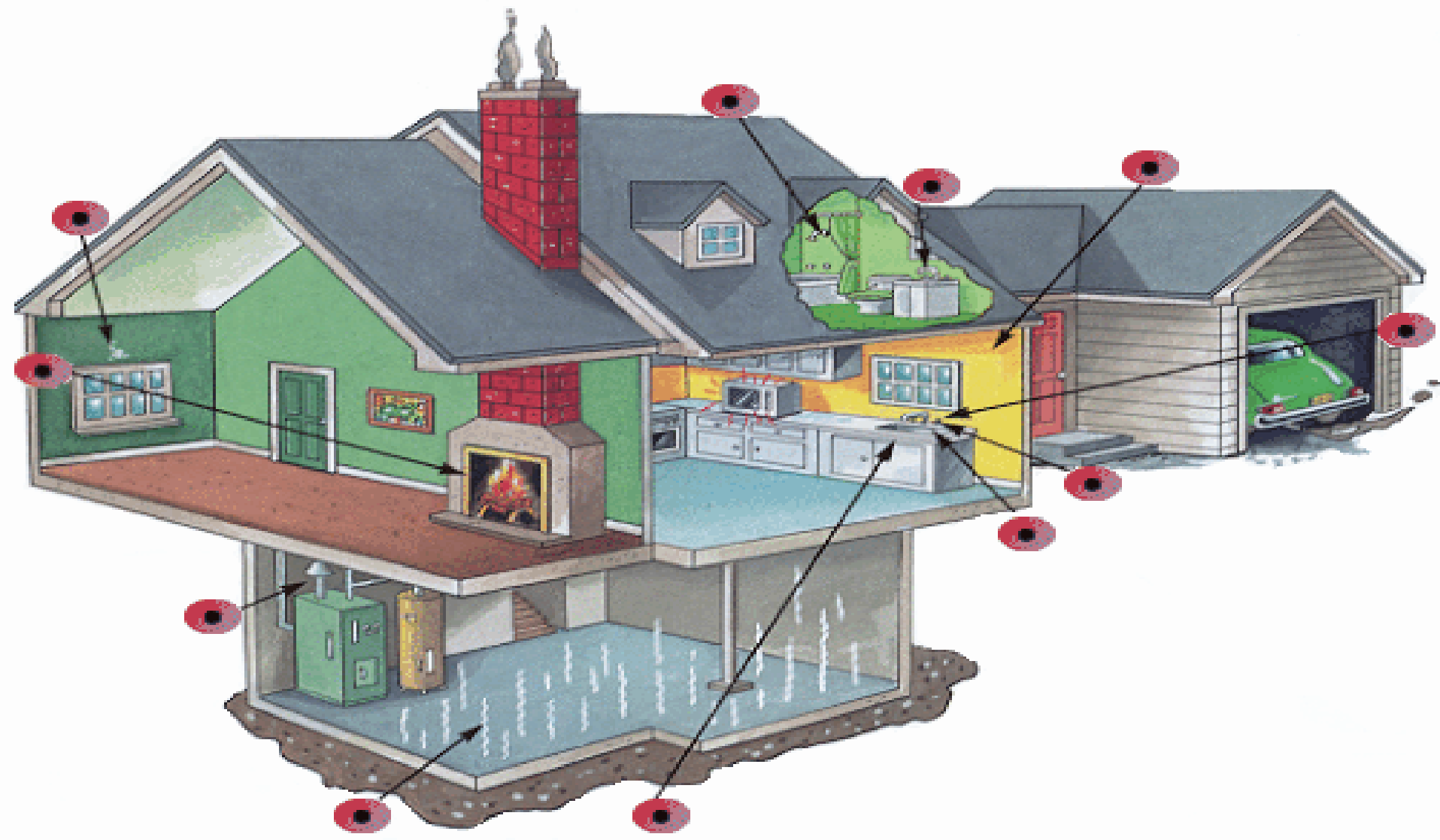
Potential Health Effects of Mold



- Allergic reactions/disease
- Irritant effects
- Infections
- Toxic effects

Mold primarily affects the respiratory system

Where Mold Grows



Carbon Monoxide (CO)

- **A Silent Killer Product of Incomplete Combustion**
 - From appliances that use fuel
 - Furnaces
 - Gas heaters
 - Cars
- **Health Effects**
 - Flu-like symptoms, headaches, nausea...
 - Claims several hundred lives each year in the US
- **Good ventilation and appliance condition key to preventing hazardous levels of carbon monoxide**
- **Impossible to see or smell, CO detector or alarm is the only way to determine exposure**



Integrated Pest Management



- **To Permanently Reduce Pests and Pesticide**
- **Dry them out (*reduce sources of water*)**
- ***Starve them out (reduce sources of food)***
- **Keep them out (*reduce shelter*)**
- **Least amount of least toxic pesticides, when needed**
- **Careful use of pesticides when needed and always Read the LABEL and use accordingly**

Overview of Radon

- Ubiquitous, naturally occurring radioactive gas
- Undetectable with 5 senses
- Greatest exposure indoors, particularly rooms below grade
- #1 cause of lung cancer for non- smokers
- #2 cause of lung cancer in the US
- Radon risk ~8X greater smokers

Test Your Home and Take Action



- Test your home**
Usually short term
test (~\$10/kit)
- Take action if level
4 pCi/L
 - Consider taking
action 2-4 pCi/L
 - New homes – use
radon resistant
construction
techniques

Mercury

- Household products contain mercury
- Replace with non-mercury alternatives when feasible, especially
THERMOMETERS
- Know how to clean up spill properly
 - No vacuum
 - No broom
 - No drains
- Get help if larger amount than what's in 1 fever thermometer

EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES
Working to make our communities healthy

Other safety hazards

Leading Causes of Home Injury & Death:

- Falls
- Poisonings
- Fires and Burns
- Choking
- Drowning



EEA

ENVIRONMENTAL
EDUCATION ASSOCIATES

Working to make our communities healthy

Create a healthy home



- Home ownership is a big responsibility
- Get to know what hazards might be present
- Make the repairs
- Remember to maintain
- You can do it!

Contact Us

- www.environmentaleducation.com
- training@environmentaleducation.com
- 888 436 8338

