

HEALTHY HOMES PRINCIPLES

THE *KEEP-ITS*



Healthy Housing
Solutions ^{Inc.}

HEALTHY HOMES PRINCIPLES

THE *KEEP-ITS*



1. Keep it DRY



2. Keep it CLEAN



3. Keep it PEST-FREE



4. Keep it VENTILATED



5. Keep it SAFE



6. Keep it CONTAMINANT-FREE



7. Keep it MAINTAINED

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1. Keep it DRY

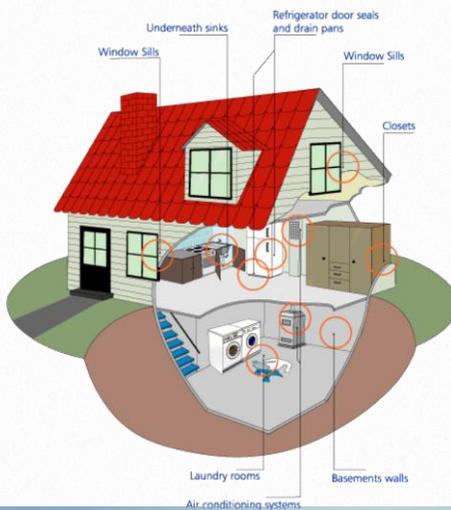
IPMC	NHHS	Local
<p>302.2 Grading & drainage</p> <p>304.2 Protective treatment</p> <p>304.6 Exterior walls</p> <p>304.7 Roofs and drainage</p> <p>304.16: Basement hatchways</p> <p>305.1 General</p> <p>305.3 Interior surfaces</p>	<p>1.2.3. Occupant's actions</p> <p>2.1. Structure</p> <p>2.2. Facilities</p> <p>2.3. Plumbing System</p> <p>6.1.1. Drainage system</p> <p>6.1.2. Ext. wood surfaces</p> <p>6.1.3. Grading, erosion prevention</p> <p>6.1.4. Interior and exterior surfaces and coverings</p> <p>6.1.5. Building material</p> <p>6.1.6. Underlying cause</p>	



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MOLD: LOOK FOR THE SOURCE!



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INTERIOR WATER LEAKAGE



Pipes
3.6%

Fixtures
1.9%

**Water
Heater**
.8%

**Other/
Unknown**
2.4%



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5



2. Keep it CLEAN

IPMC	NHHS	Local
302.1 Sanitation	1.1, 1.2 General	
303.1 Swimming pools	2.4.5. Kitchen floor	
305.1 General	2.4.6. Bathroom floor	
308.1 Accumulation of Rubbish or Garbage	2.7. Floors and floor coverings	
308.2 Disposal of rubbish	6.2. Solid Waste	
308.3 Disposal of garbage	6.2.1. Trash containers	
308.3 Disposal of garbage	6.2.2. Recyclables containers	
503.4 Floor Surface		



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6

**CLEAN ≠
CHEMICALS
CAN =
ALLERGENS AND POISON**



HEALTHY CLEANING GUIDELINES



Don't dry dust or dry sweep.



Vacuum very slowly using a low-emission machine with a beater bar or dirt finder.



Use "elbow grease," and change water frequently.



FIRST...

MAKE IT CLEANABLE!



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9

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3. Keep it PEST-FREE

IPMC	NHHS	Local
<p>302.5 Rodent harborage</p> <p>304.5 Foundation walls</p> <p>304.14 Insect screens</p> <p>304.17 Basement window guards</p> <p>309.1 Infestation</p> <p>309.2 Owner</p> <p>309.3 Single occupant</p> <p>309.4 Multiple occupancy</p> <p>309.5 Occupant</p>	<p>1.1.2. Owner and integrated pest management</p> <p>1.2.2. Occupant and integrated pest management</p> <p>6.3.2.1 Stored materials</p> <p>6.3.3. Adequate screens</p> <p>6.3.4 No holes or open joints</p> <p>6.3.4.1. Sealed with low-VOC caulk or closed-cell insulation</p> <p>6.3.5. Infestation</p>	



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PESTS

- Associated with illness and disease
- Common (and contentious) issue in public housing
- Covered by codes



PESTICIDES

- Associated with illness and disease
- Misapplication or application by non-licensed professional is violation of the law



PEST MANAGEMENT

INFESTATION

The presence within or contiguous to a structure or premises of insects, rats, vermin, or other pests.

EXTERMINATION

The attempt to eliminate an entire population of insects, rats, vermin, or other pests, often through the use of pesticides.



INTEGRATED PEST MANAGEMENT (IPM)

Eliminate, not exterminate:

- Eliminate harborage places
- Remove food sources
- Seal gaps
- Use approved pest elimination methods



4. Keep it VENTILATED

IPMC	NHHS	Local
302.6 Exhaust vents 403.1 Habitable spaces 403.2 Bathrooms 403.3 Cooking facilities 403.4 Process ventilation 403.5 Clothes dryer 505.4 Water heating facilities 603.2 Removal of combustion products 603.5 Combustion air 607.1 General	2.3.2. An adequate supply of heated running water 2.4.3.2. Kitchen range 2.5.5. Bathroom 5.2.1. Venting and Air Supply for Heating Equipment 5.3 Ventilation 5.3.1. ASHRAE Standard 5.3.2. Exhausted air 5.3.3. Pipes, ducts, conductors, fans, blowers 5.3.4. Basement 5.4. Air Sealing	



IS IT VENTILATED?

- Are there exhaust fans for the bath, dryer, and range?
- Is the hot water heater vented?
- Are furnaces, boilers, and fireplaces vented?
- Is a gas stove used as a heater?
- Does the smoke alarm go off?
- Do the windows fog up?
- Are there any unvented gas or kerosene heaters?
- Are there rooms without windows?
- Is the air stale?
- Are there lingering odors?



5. Keep it SAFE

IPMC	NHHS	Local
302.3 Sidewalks, driveways 302.8 Motor vehicles 303.2 Pools, spas, hot tubs 304.1.1 Ext Structure: Unsafe conditions 304.10 Stairways, decks, porches, balconies 304.12 Handrails and guards 304.18 Building security 304.19 Gates 305.1.1 Int Structure: Unsafe conditions 305.4 Stairs, walking surfaces 305.5 Handrails and guards 307.1 Handrails & guardrails 605.1 Electric equipment 702-704 Fire safety	2.4.3.1. Range/over 2.7. Floors, floor coverings 3.2. Locks/security 3.6. Walking Surfaces 3.7. Guards 3.9. Pools, hot tubs, water features 4.1. Electrical System 4.2. Outlets	



HOME INJURY RISKS BY AGE



Infants: Choking and Suffocation a



Birth-14: Falls at Home



1-14: Fires and Burns



Older Adults: Falls at Home



80+: Increased Risk of Death from Injury

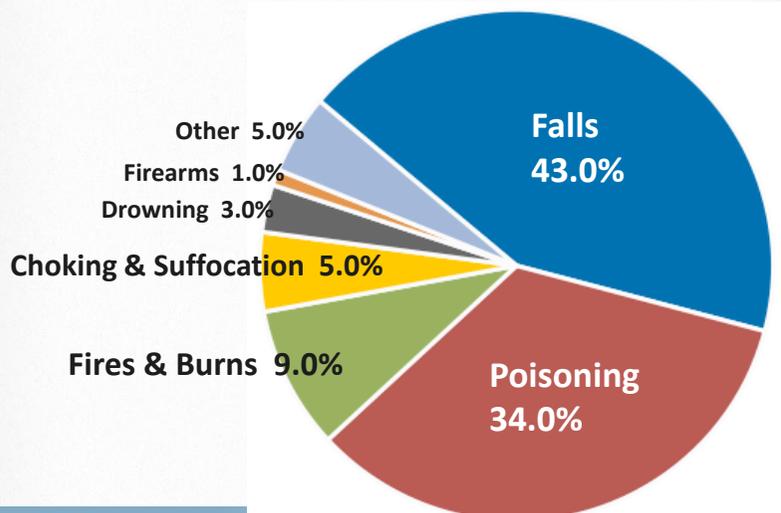


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17

HOME INJURY DEATHS



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18

CHEMICALS IN THE HOME

Second and Third Hand Smoke



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19

CHEMICALS IN THE HOME

Household Products



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20

CHEMICALS IN THE HOME

Hobbies & Professional Supplies



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21

PESTICIDE LABELS: READ 'EM!

SIGNAL	TOXICITY RATING	LETHAL DOSE 160 lb. human ²
Danger ¹	Highly toxic OR Highly corrosive	Few drops to 1 Teaspoon.
Warning	Moderately toxic	1 Teaspoon to 1 Tablespoon.
Caution	Least toxic	1 Tablespoon to a pint or greater.

¹ Sometimes the word 'Danger' appears with the word 'Poison' and the skull and crossbones symbol for extremely toxic pesticides. Danger by itself usually relates to the pesticide's capacity to cause serious skin or eye damage.



² Remember that a 40 lb. child could be poisoned by one-fourth the amount required for an adult. Always store pesticides in their original containers and keep away from children, livestock, pets and anyone not trained in pesticide use.



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22

PROTECT YOURSELF!

PPE: Personal Protective Equipment

- N-95 Respirator
- Rubber gloves
- Safety goggles
- Hard hat
- Ty-vek suit
- Booties



PROTECT YOURSELF!

Be Aware Of:

- Significant structural defects and physical hazards
- Visible and significant biological contamination
- Fire and improperly stored combustible materials





6. Keep it CONTAMINANT-FREE

IPMC	NHHS	Local
302.4 Noxious weeds 302.8 Motor vehicles 403.4 Process ventilation 505.2 Water System: Contamination 506 Sanitary Drainage System	2.3.3 Plumbing system: sewage disposal 3.5. Carbon Monoxide 3.8. Chemical Storage 7.2. Lead-Based Paint 7.3. Asbestos 7.4. Toxic Substances 7.5. Radon 7.6. Pesticides 7.7. Methamphetamine 7.8. Smoke in Multifamily Housing	



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25

WHAT CONTAMINANTS?

- Lead-Based Paint
- Asbestos
- Carbon Monoxide
- Radon
- Chemical and biological contaminants

c.V Magn | 10 μm
0 kV 2000x Janice Haney Carr



LEAD RENOVATION, REPAIR AND PAINTING (RRP)

- Only Lead-Safe Certified Firms may disturb paint in pre-'78 housing
- “Certified Renovators” must supervise work

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28

LEAD RENOVATION, REPAIR AND PAINTING (RRP)

- Mandatory Work Practices
- Post-renovation Cleaning Verification
- Documentation!

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29

ASBESTOS



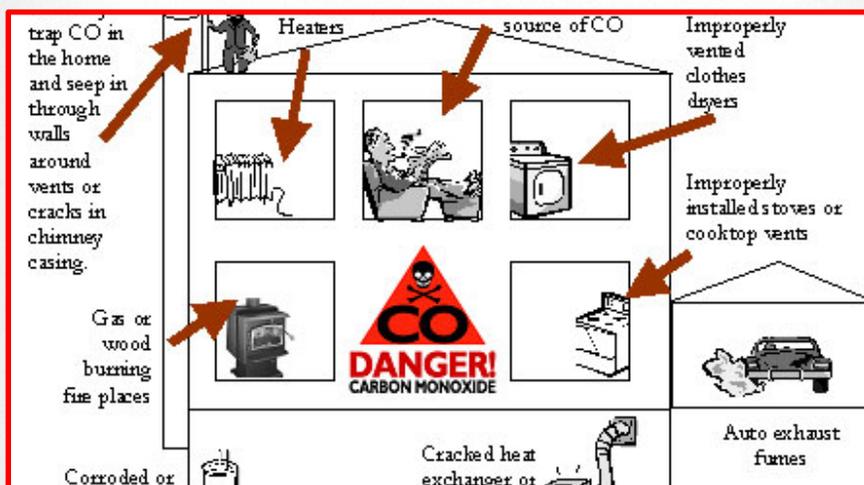
What is it?

How will you know it?

Do not disturb any suspect asbestos-containing materials, especially if friable.

c.V Magn |—————| 10 μm
10 kV 2000x Janice Haney Carr

CARBON MONOXIDE IN THE HOME



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CARBON MONOXIDE: IT'S ALARMING!

Why do so few residents use CO alarms?

- Smoke detector: 92.9%
- CO alarm: 41.6%



The answer is in the code!

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It's the Law.

Carbon Monoxide Alarms are required in 30 states. These states are highlighted in red.

First Alert

■ Statewide Residential CO Legislation ■ Local CO Legislation

Information supplied as of November 1, 2010.

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33

CARBON MONOXIDE ALARMS

Consumer Product Safety Commission (CPSC) recommends:

- Near sleeping areas
- On every level
- NEVER above or beside fuel-burning appliances

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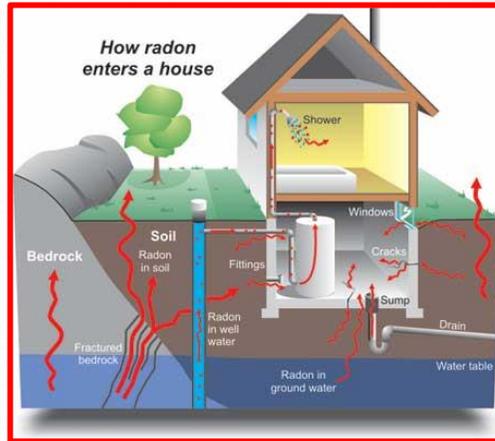
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34

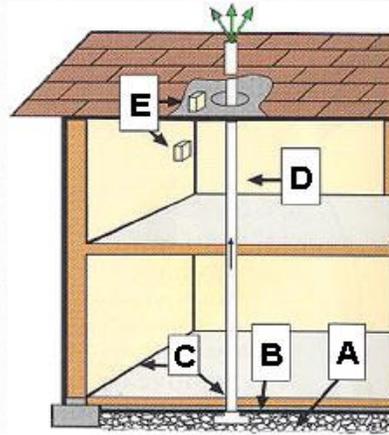
RADON

- Building code vs. housing code
- Landlord responsibilities



PASSIVE SUB-SLAB DEPRESSURIZATION SYSTEM (NEW CONSTRUCTION)

- A** Gas-Permeable Layer
- B** Plastic Sheetting
- C** Seal and Caulk
- D** Vent Pipe
- E** Junction Boxes





7. Keep it MAINTAINED

IPMC	NHHS	Local
302.3 Sidewalks and driveways 203.4 Weeds 302.7 Accessory structure 302.9 Property defacement 303.1 Swimming pools 305 Interior Structure 306 Component Serviceability 504 Plumbing Systems & Fixtures 505 Water System 506 Sanitary Drainage System 507 Storm Drainage 603 Mechanical Equipment 604 Electrical Facilities 605 Electrical Equipment 606 Elevators, Escalators 607 Duct Systems	2.2. Facilities 2.3 Plumbing System 2.4 Kitchen 2.5 Bathroom 2.6. Minimum Space 3.6. Walking Surfaces 3.7. Guards 3.9. Pools, Hot Tubs, and Other Water Features 4.1. System 4.2.2 Outlets 5.1. Heating, Ventilation, and Air Condition Systems	



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37

MAINTAINED = FREE FROM

- Unsanitary conditions
- Unsafe conditions
- Hoarding
- Clutter



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38