The 8 Principles of a Healthy Home

AJ Salkoski, Program Analyst
HUD Office of Lead Hazard Control and Healthy Homes
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- Provide Grants to Improve the Health of Residents and the Home Environment
  - Lead Hazard Reduction
  - Technical Studies
  - Older Adult Home Modifications
  - **Healthy Homes Production**
- Provide Technical Assistance on Healthy Homes
Creating Healthy Home Environments
1. Keep It Dry

- Prevent Water Intrusion From:
  - Plumbing Leaks
  - Roof Leaks
  - Poor Exterior Drainage

- Prevent Moisture From Collecting on Surfaces
  - Maintain Moderate Levels of Relative Humidity
Mold Problems are Moisture Problems
Find the Source of the Moisture

• Is it exterior?
• Is it a leak?
• Is it from behaviors?
Relative Humidity

<table>
<thead>
<tr>
<th>Relative Humidity</th>
<th>Optimum Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteria</td>
<td></td>
</tr>
<tr>
<td>Viruses</td>
<td></td>
</tr>
<tr>
<td>Fungi</td>
<td></td>
</tr>
<tr>
<td>Mites</td>
<td></td>
</tr>
<tr>
<td>Respiratory Infections</td>
<td></td>
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<tr>
<td>Allergic Rhinitis and Asthma</td>
<td></td>
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<tr>
<td>Chemical Interactions</td>
<td></td>
</tr>
<tr>
<td>Ozone Production</td>
<td></td>
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</tbody>
</table>

Percent Relative Humidity

Decrease in Bar Width Indicates Decrease in Effect
2. Keep It Clean

- Control the Sources of Dust and Contaminants
- Maintain Smooth and Cleanable Surfaces
- Reduce Clutter
Cleaning Schedules

Cleaning Calendar

Daily

**EVERY MORNING:**
- Make beds
- De-clutter bedrooms and bathrooms

**EVERY EVENING:**
- De-clutter living areas
- Quick sweep or mop in kitchen
- Wipe down kitchen counters, table, stove, etc.
- Do the dishes
- Take out trash

Weekly

- **MONDAY**: De-clutter & dust
- **TUESDAY**: Monthly chore
- **WEDNESDAY**: Kitchen
- **THURSDAY**: Bathrooms
- **FRIDAY**: Floors (vacuum, mop, etc.)
- **SATURDAY/SUNDAY**: Catch-up

Monthly

- **1ST**: Appliances (including vacuum and washer/dryer)
- **2ND**: Furniture and cabinets
- **3RD**: Wash rugs, etc.
- **4TH**: Yearly chore
- **8TH**: Take a break!

Yearly

- **JANUARY**: Wipe down inside of kitchen cabinets and drawers
- **FEBRUARY**: Organize closets/pantry
- **MARCH**: Wipe down inside of bathroom cabinets and drawers
- **APRIL**: Carpet/garage
- **MAY**: Outside of house
- **JUNE**: Walls, moldings, doors
- **JULY**: Shampoo carpet
- **AUGUST**: Windows/window sills
- **SEPTEMBER**: Blinds and window treatments
- **OCTOBER**: Carpet/garage
- **NOVEMBER**: Clean behind refrigerator/oven
- **DECEMBER**: Walls, moldings, doors

2022 Healthy Homes Production and Older Adult Home Modification New Grantee Orientation
People Have Stuff
3. Keep It Safe

- Install Smoke and Carbon Monoxide Detectors
- Store Poisons and Medications Out of the Reach of Children
- Reduce Slips, Trips, and Fall Hazards
The Immediate Life and Safety Issues!

- Carbon Monoxide
- Smoke and Fire
- Electrocution
- Structural Collapse
- Ramps and Rails
- Clear Paths to Walk

- Working Alarms
- Plugs in outlets for small children
- Not overloading circuits of outlets
- Maintenance regarding roofing, walls, entryways, walkways...
4. Keep It Well Ventilated

- Supply Fresh Air to the Home (Preferably Mechanically)
- Exhaust Fans in Bathrooms
- Range Exhaust Over Cooking Stoves
- Reduces the Concentration of Airborne Contaminants
Not the Magic Bullet for IAQ, but Close!
5. Keep It Pest-Free

**Integrated Pest Management**

- Seal Cracks and Openings for Entry
- Store Food in Sealed Containers Off of the Floor
- Avoid Using Chemicals and Pesticides If At All Possible

Msrblog.com
Eliminate Access

• Pest Specific (What might keep one pest out may not keep another out)
• Prevents Pests from Entering through the Exterior
• Could be natural holes or gaps, manufactured gaps like air intake, or could have been created by the pests
• Remember that you could be introducing pests (come in on your pets, come in through open doors, could hitchhike like bed bugs...)
Eliminate Sources of Food and/or Water
Eliminate the Pest Safely (for Residents)

• Pesticides are poison
• They can poison people too
• Capture, Trap, and Use Non-Toxic Methods when Possible
6. Keep It Contaminant-Free

- Be Aware of Lead Paint Hazards
- Test for Radon Gas in the Home
- Avoid Bringing Contaminants into the Home

Vdhradon.org
Legacy Contaminants

Examples of contaminants can be eliminated from a unit:

- Lead Paint
- Asbestos
- Some forms of Mercury
- Many others...

<table>
<thead>
<tr>
<th>Metal</th>
<th>Arsenic</th>
<th>Mercury</th>
<th>Lead</th>
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<tbody>
<tr>
<td></td>
<td>breathing problems</td>
<td>blindess and deafness</td>
<td>behavioral problems</td>
</tr>
<tr>
<td></td>
<td>death if exposed to high levels</td>
<td>brain damage</td>
<td>high blood pressure, anemia</td>
</tr>
<tr>
<td></td>
<td>decreased intelligence</td>
<td>digestive problems</td>
<td>kidney damage</td>
</tr>
<tr>
<td></td>
<td>known human carcinogen: lung and skin cancer</td>
<td>kidney damage</td>
<td>memory and learning difficulties</td>
</tr>
<tr>
<td></td>
<td>nausea, diarrhea, vomiting</td>
<td>lack of coordinaton</td>
<td>miscarriage, decreased</td>
</tr>
<tr>
<td></td>
<td>peripheral nervous system problems</td>
<td></td>
<td>sperm production</td>
</tr>
</tbody>
</table>
New Contaminants

Just because you DIDN’T have radon, does NOT mean you DON’T have radon:

• Test
• Test Again
• Test every home
Introduced Contaminants

What are we bringing into our homes?
7. Keep It Maintained

- Inspect
- Clean
- Repair
- Keep a Maintenance Schedule
Create a Maintenance/Inspection Schedule for:

• Filters
• Systems (Ventilation), Roofing, Plumbing, etc.
• Cleaning
8. Keep It Thermally Controlled

- Maintain a Consistent, Comfortable, Moderate Temperature in the Home
- Avoid Extreme Hot and Cold Temperatures in the Home
# Climate Controlled Units

## Centrally Controlled
- Central Air
- Radiant Heating
- Forced Air

## Site Specific
- Wood stove
- Window AC Unit
- Toyo Stove
Before and After

Photos: Tlingit Haida Regional Housing Authority
Before and After

Photos: Alaska Native Tribal Health Consortium
The Eight Principles of a Healthy Home

1. Keep it dry: Prevent water from entering the home through leaks in roofing systems, prevent rainfall from entering the home due to poor drainage, and check interior plumbing for any leaking.

2. Keep it clean: Control the source of dust and contaminants, by 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 area clean using a wet-cleaning approach. Test the 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 the home routinely. Take care of minor repairs and problems before they become large repairs and problems.

8. Keep it thermally controlled: Houses that do not maintain adequate temperatures may place the safety of residents at increased risk from exposure to extreme cold or heat.
Keep It Maintained

Keep It Well Ventilated

Keep It Pest Free

Keep It Contaminant Free

Keep It Thermally Controlled

Keep It Clean

Keep It Dry
Thank you!

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