


# MODULE 3

## STEP 2: VISUAL IDENTIFICATION OF HAZARDS



Healthy Housing Solutions<sup>INC.</sup>

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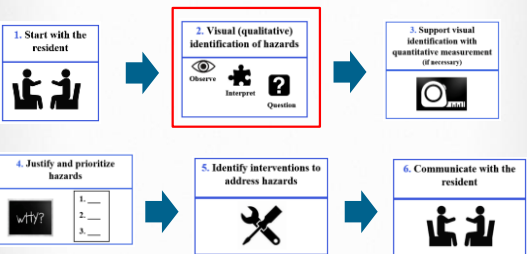
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### KEY STEPS



1. Start with the resident

2. Visual (qualitative) identification of hazards

3. Support visual identification with quantitative measurement (if necessary)

4. Justify and prioritize hazards

5. Identify interventions to address hazards

6. Communicate with the resident

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### MODULE TOPICS

#### 2. Visual (qualitative) identification of hazards

- Observe
- Interpret
- Question

- Visual assessment tools
- Developing a hypothesis
- Risk assessment
- The assessment process
- Practice
- Extra focus on pests

**STOP** Who can list the eight Keep It principles?

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### REMEMBER THE EIGHT PRINCIPLES

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

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### Visual Assessment Tools

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### INTERVIEW AND VISUAL ASSESSMENT TOOLS

- Most interview tools have a visual assessment component.
- Bottom line is what works for you to do an assessment in a structured way.

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### SAMPLE CHECKLISTS

- Allies Against Asthma
- ASTM D7297 IEQ Assessment
- CEHRC (available in the Essentials course materials)
- Children's Mercy Hospital Environmental Health Assessment form
- Environmental Protection Agency Home Visit
- Harvard School of Public Health
- U.S. Department of Housing & Urban Development Healthy Homes Rating System
- King County/Seattle
- Pediatric Environmental Home Assessment form



May be the same tool as the Interview tool in Step 1

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### Developing a Hypothesis



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### THE HYPOTHESIS

- Start with a hypothesis that covers the purpose of the assessment (not the complaint).
- A hypothesis is a testable statement.

*Remember: only health providers can make health and environment connections.*

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# Risk Assessment



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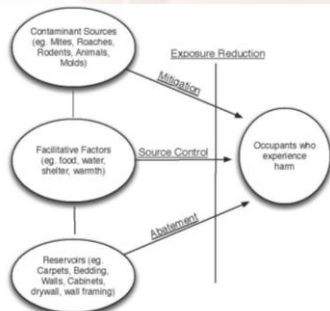
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## HOME ENVIRONMENTAL ASSESSMENT SHOULD GUIDE EXPOSURE REDUCTION



Cicciocioppo, Christina E. MD, Kevin Kennedy, MPH, Jay M. Portnoy, MD, A New Model for Environmental Assessment and Exposure Reduction Current Allergy and Asthma Reports December 2012, Volume 12, Issue 5, pp 650-655



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## ASSESSMENTS SHOULD:

- ◆ Identify the nature and extent of individual hazards: [Risk Assessment](#)
- ◆ Determine the relative risk of different hazards: [Risk Analysis](#)
- ◆ Evaluate the interactions and synergisms between individual hazards: [Risk characterization](#)

Source: HUD Healthy Homes Issues: Residential Assessments, March 2006



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## RISK ASSESSMENT

Risk Assessment is a systematic method of collecting and interpreting scientific information relating environmental hazards to human health.

Risk Assessment is a process of quantifying the likelihood of harmful effects from a hazard.

**Risk assessment is NOT making medical statements or connections.**  
*Risk Assessment in the Federal Government: Managing the Process\*, National Research Council, © 1983*



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## HOME ASSESSMENTS ARE RISK ASSESSMENTS

### Risk Assessment Steps\*

- Hazard Identification
- Hazard Evaluation
  - Consider dose-response
- Exposure Assessment
- Risk Characterization

*\*National Research Council, 1983*



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## RISK ASSESSMENTS INCLUDE RISK-BENEFIT ANALYSIS WITH THE GOAL:

to reduce exposure to hazard whenever possible

- Example: Avoid sun exposure

to accept substantial hazard only for great benefit

- Example: Flying versus driving

to accept minor hazard for modest benefit; and

- Example: Hair dying or coloring

to accept no hazard at all when the benefit seems relatively trivial

- Example: Tanning beds (is there a health risk?)

Philip Handler (1979), President of U.S. National Academy of Sciences 1969 to 1981



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# The Assessment Process



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## OBSERVE, INTERPRET AND QUESTION

- **Observe, interpret and question steps** are a mini-sequence, within the evaluation.
- **First** - observe hazards and identify them.
- **Second** - interpret what you see.
- **Third** - follow up questions for the resident based on what you've observed.
  - Water stain example, ask the resident **“Did this water stain appear recently or has it been there a while?”**



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## MORE ON INTERPRETATION

- Interpretations are a combination of professional knowledge, experience and logic.
- Some interpretations may require research evidence to support conclusions.

What myths have you encountered?



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### WHAT ABOUT RENTAL PROPERTY?

- Assessment allowed if non-destructive
- Family should provide report to Landlord
- Issues identified that are code violations may need to be reported to code enforcement.




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### ACUTE HAZARDS: (REVIEW)

Hazards that require immediate attention due to the potential for posing an imminent danger to life and health.

Examples include:

- **Physical:** loose stairs, child access to crawl spaces, structural deterioration or significant damage etc.,
- **Biological hazards:** Sewer back ups on carpets where people are using the room, etc.,
- **Chemical hazards:** poisons, drugs, chemicals, lead paint/dust hazards, detectable carbon monoxide or gas leaks, etc.,




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### CHRONIC HAZARDS: (REVIEW)

Hazards which do not pose an immediate danger to life and health but do promote allergies, asthma, lead poisoning, pesticide exposure, or other chronic health conditions.

Examples include:

**Physical:** Poor HVAC maintenance, windows in disrepair, foundation cracks, minor roof damage, plumbing leaks

**Biological:** Observed/reported pests, condensation and microbial growth, open cracks/gaps in siding, wet/damp drywall

**Chemical:** poorly operating stove, lack of ventilation/ exhaust fans in bathrooms and over gas stoves




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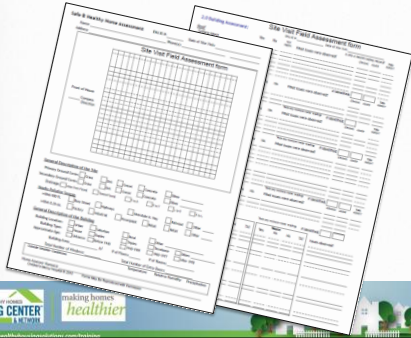
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### REFER TO SITE VISIT FORMS

Same forms that will be used in the site visit.



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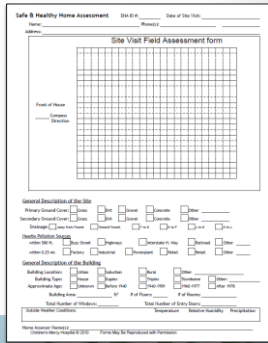
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### QUALITATIVE OR VISUAL ASSESSMENT

- Areas to Assess:
  - Exterior
  - Structural Components
  - Mechanical Components
  - Room by Room Visual Assessment
  - Floor Plan



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### HOME ASSESSMENT PROCESS

Where should a home assessment start?

- Outside?
- Living Room?
- Basement?
- Child bedroom?



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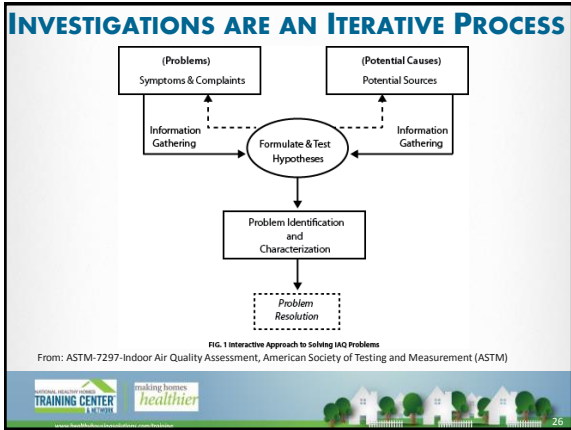
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### VISUAL ASSESSMENT

Mechanical Components:

- Furnace/AC
- Window AC
- Water Heater
- Main Plumbing
- Kitchen Plumbing
- Bathroom Plumbing

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### Practice

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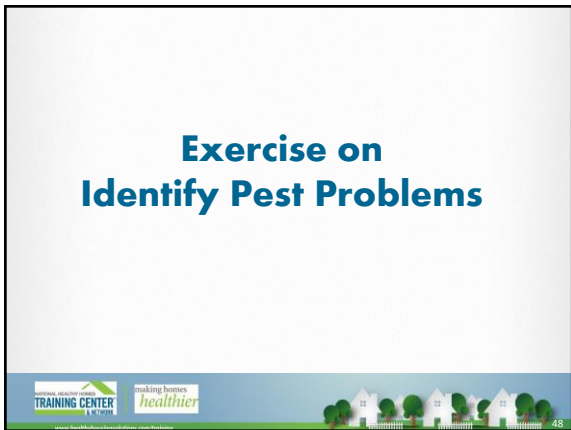
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**VISUAL IDENTIFICATION OF HAZARDS**

AREAS	Keep it Principles						
	Dry	Clean	Pest-free	Ventilated	Safe	Contaminant-free	Maintained
Building – exterior shell							
Area around the building							
Mechanical equipment and appliances							
Interior rooms							
Kitchens and bathrooms							

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