Lead 101
LEAD INSPECTOR RISK ASSESSOR TRAINING

Interesting Fact
- Pre-1978 housing may contain lead-based paint
- Romans added lead to sweeten their wine.
- Wealthy Roman families had increased risk of "going crazy"
- Could this have contributed to the fall of the Roman Empire?
- Were the wealthy Romans lead poisoned?

Lead Exposure

Environmental
- Paint
- Dust
- Soil
- Water

Non-Environmental
- Ayurvedics
- Imported Food, Spices
- Occupational
- Hobbies
- Jewelry, Toys, Clothing
**Lead Paint**

* Lead in paint was banned in 1978
* Pre-1978 housing may contain lead-based paint
* 74% of homes built prior to 1980 have lead paint
* Pre-1950 even higher probability lead paint
* In CT, 35% of housing stock is pre-1950

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**Lead Paint Hazard Standards**

**Toxic Levels:**

- Paint for sale (wet paint): \( > 0.06\% \) lead by weight
- Paint chip: \( \geq 0.5\% \) lead by weight
- X-ray Florescence Analyzer (XRF): \( \geq 1.0 \mu g/cm^2 \)

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**Lead Dust**

* Not visible (typically)
* Very fine
* High friction leaded surfaces create dust
* Created by renovating pre-1978 homes

**Solution:**

* Wet cleaning and lead-safe work practices
Dust Hazard Standards

Dust Hazard
Risk Assessment:

Floor: ≥ 40 µg/sq. ft
Window sill: ≥ 250 µg/sq. ft

Soil

May contain:
- paint chips
- lead dust

Solution:
- Cover bare areas by planting grass, shrubs, or with mulch
- Wipe shoes on mats or remove shoes before entering the home

Soil Hazard Standard

- > 400 ppm must be abated
  - Planting grass
  - Shrubs
  - Mulch
  - Excavate, Remove & Replace
  - Other landscaping material
- > 5,000 ppm must use permanent methods
  - Concrete
  - Pave
  - Excavate, Remove & Replace
Water

- Lead pipes
- Solder
  - Lead solder banned in plumbing in 1986
- 40 million households private wells
  - Higher risk of lead in pipes
- Chemical changes made to water systems
  - Change in water source without correct corrosive control
  - Flint, MI (corrosive water leaches lead from pipes)

Water Hazard Standards

Public water systems:
- .015 mg/L or 15 ppb

Clearance Standards

**Dust Clearance**
Post Abatement:

- Floors: <40 µg/sq. ft
- Window sill: <250 µg/sq. ft
- Window well: <400 µg/sq. ft
## Non-Environmental Sources

### Occupational
- Demolition Work
- Bridge Work
- Factory Work
- Arms Manufacturing
- Battery recycling
- Firing Ranges

### Food
- Gardening
- Imported Foods

### Hobbies
- Ceramics
- Stained glass soldering
- Firearms/bullet making

### Cultural
- Ayurvedics
- Makeup

### Children's Products
- Toys
- Jewelry
- Clothes

## Ayurvedics – plant based

- Herbs, minerals, metals, animal products
- 1 in 5 contain harmful levels of lead, mercury, and arsenic*
- Imported from India & South Asian countries
- Regulated as dietary supplements
  - (i.e. medical standards do not apply)

*Robert B. Saper, MD, MPH; Stefanos N. Kales, MD, MPH; Janet Paquin, PhD; Michael J. Burns, MD; David M. Eisenberg, MD; Roger B. Davis, ScD; Russell S. Phillips, MD. (2015, December 15). Heavy metal content of Ayurvedic herbal medicine products. Retrieved from JAMA Network Journals.
**Gardening**

Food contamination from…
- Improper food handling
  - Working with contaminated soil then touching food
- Lead contaminated soil (controversial)
  - Test soil prior to planting
  - Use a raised garden with new soil

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**Imported Foods and Candy**

Packaging food products:
- Leaded ink is used in/on candy wrappers
  - 1995 FDA policy for industry ban on leaded ink
- Lead solder is used to seal imported metal food cans
  - 1991 US banned the use of lead solder on US manufactured food products
  - 1995 US banned the use of lead solder on imported food products

Problem is…..
- Only a small amount of imported products are tested
- Potential food contamination
- Limited FDA standards

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**Occupational Lead Exposure**

- Painters, renovators, abatement workers, etc...
  - Lead dust can contaminate…..
    - Interior of vehicle
    - Clothes
    - Shoes
- Important to remember….
  - Shower on worksite if possible
  - At a minimum wash hands and face
  - Change clothes and shoes before leaving worksite
  - Remove shoes before entering home
  - Wash work clothes separately
Hobbies: Pottery & Ceramics

- Imported pottery may be coated in glaze containing lead
- Over time lead may leach out of the pottery
- If unsure, use as decoration rather than for food

Lead in Pewter

- Low grades of pewter may contain lead
- Over time lead may leach out into food and beverages
- Do not store food or beverages in pewter containers

Potential Leaching Sources

- Lead can leach out of lead crystal, pitted pots and pans and rubber seals into acidic beverages or food!!!
Hobbies: Lead Soldering

- Used in stained glass
- Releases toxic lead fumes
- Should be done away from children and pregnant women
- Done in well ventilated area
- Use personal protective equipment (PPE)

Lead and Firearms

- Lead dust is generated from bullets moving down barrels and when hitting bullet traps in a firing range
- High levels of dust may settle on instructors or shooters skin and/or clothing
- Clothing and shoes should be changed before entering the car or home
- Showering can remove any lead dust on the skin


Children’s Jewelry

- Inexpensive jewelry can have high levels of lead
  - Discount stores and gumball machines
Do you know……..

Jarnell Brown

In Minnesota on February 22, 2006, Jarnell Brown died from lead poisoning after swallowing a metal charm, which laboratory testing revealed to be 99.1% lead

Who was Freddie Gray?
Before Freddie Gray was fatally injured in police custody in 2015, and the city of Baltimore, MD was plunged into rioting, his life was defined by failures in the classroom, run-ins with the law and an inability to focus on anything for very long.

Many of those problems began when he was a child and living in a house built in 1910, according to a 2008 lead-poisoning lawsuit filed by Gray and his siblings against the property owner. The suit resulted in an undisclosed settlement.

Every child in CT **MUST** be tested twice for a BLL between the ages of 9–36 months
- Generally pediatricians test at 12 and then again at 24 months

Blood Lead Level Reporting

Laboratories must report BLLs ≥ 10μg/dL (includes Leadcare II) within 48 hours to DPH and LHD

CGS § 19a-110(a)
FOR A CHILD WHO HAS RECEIVED A BLOOD LEAD TEST...

Capillary screening test follow-up:

<table>
<thead>
<tr>
<th>Result of screening test (µg/dL)</th>
<th>Early follow-up (after identification)</th>
<th>Late follow-up (after BLL begins to decline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-19</td>
<td>3 months</td>
<td>6 - 9 months</td>
</tr>
<tr>
<td>20-44</td>
<td>1 month - 1 week®</td>
<td></td>
</tr>
<tr>
<td>45-59</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>24 hours</td>
<td></td>
</tr>
<tr>
<td>≥ 70</td>
<td>Immediately</td>
<td></td>
</tr>
</tbody>
</table>

Venous test follow-up:

<table>
<thead>
<tr>
<th>Venous blood lead level (µg/dL)</th>
<th>Early follow-up</th>
<th>Late follow-up (after BLL begins to decline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - 14</td>
<td>3 months</td>
<td>6 - 9 months</td>
</tr>
<tr>
<td>16 - 19</td>
<td>1 - 3 months</td>
<td>3 - 6 months</td>
</tr>
<tr>
<td>20 - 24</td>
<td>1 - 3 months</td>
<td>1 - 3 months</td>
</tr>
<tr>
<td>25 - 44</td>
<td>2 weeks - 1 month</td>
<td>1 month</td>
</tr>
<tr>
<td>&gt; 45</td>
<td>As soon as possible</td>
<td>Chelation with subsequent follow-up</td>
</tr>
</tbody>
</table>

³The current method is capillary blood lead level testing. When the state implements venous blood lead level testing, that method will need to be updated.
Problems with retesting:

- If a medical provider is not following **DPH REQUIREMENTS AND GUIDELINES**:
  - Evaluate provider on screening requirements
  - Notify the LRAHIP
  - Contact Regional Lead Treatment Center (RLTC),
    - Ask them to contact the doctors to remind/re-educate
  - Refer the family to the RLTC for follow-up care

- If the parents or guardians are refusing to get a child retested:
  - Enlist the help of Pediatrician
  - A referral to DCF may be warranted (it depends on the situation & BLL)

**CT DCF Mission:**

*Working together with families and communities for children who are healthy, safe, smart and strong.*

Effective Child Case Management Practices

- Management of BLLs ≥ 5 µg/dL.
- Monitor BLL increases and decreases
- Utilizing template letters from Lead Maven
- Provide education to guardians
Diagnostic Testing and Follow-up for BLLs ≥ 5 μg/dL

Lead Maven generates testing due dates

Lead Maven System generates REMINDER LETTERS
Standard Educational Information Packet: can be downloaded from the DPH website, complies with CGS

Child’s Case File Contains:

- All BLL results
- The Epidemiological Investigation Form (must have hardcopy)
- Dates and/or notes related to:
  - Letters sent, contact attempts, notes of telephone conversations, etc.
- Times & dates of contact with family & PCP
- Confirm that educational material provided is understood (available in Spanish on DPH webpage, other languages for some materials)
- Monitor follow-up care and retesting schedule
Child Case Closure Criteria

- **BLL drops to a venous level of < 5 μg/dL**
  - No open environmental case

- **Child relocates:**
  - **Within CT**
    - Case will be shared with new LHD
    - Close case
  - **Outside of CT**
    - Notify LR&HHP
    - Try to get new address
    - DPH will contact new State's Lead Program
      - DPH must close case

- **Administrative closure**
  - Should have documentation of at least three (3) unsuccessful attempts to locate family (MD does not know where family is, no one lives at house, no working phone, mail undeliverable, etc.)
  - Ask DPH case manager to close case
  - Not to be used often
Any Questions?

Please don’t hesitate to call Sherine, Brianna, Kim or Jim
860-509-7299
Timeline for Completing EBLL Investigation

When do I have to complete it and why?

Definitions:

- Elevated blood lead level - a blood lead concentration equal to or greater than twenty (20) micrograms per deciliter (μg/dl) or as defined by Connecticut General Statutes section 19a-111.

- Epidemiological investigation - an examination and evaluation to determine the cause of elevated blood lead levels. An epidemiological investigation will include an inspection conducted by a lead inspector to detect lead-based paint and report of findings. This investigation must also include evaluation of other sources such as soil, dust, pottery, gasoline, toys, or occupational exposures, to determine the cause of elevated blood lead levels. The investigation may also include isotopic analysis of lead-containing items.

Comprehensive Lead Inspection (CLI) - an inspection which identifies lead based paint surfaces and hazards. This includes XRF testing, dust, water and soil collection and analysis. Additionally, evaluate other non-environmental sources as a potential lead hazard.

Epidemiological Form - document current version Epiform 9 3-15-18, which identifies potential lead exposures and/or factors that could cause a child to have a high BLL.
Notification of BLL to LHD

Blood Lead Level results received from:
- Laboratory
  - Labs must report ≥10μg/dL within 48 hours
- Maven
- DPH Lead, Radon and Healthy Homes Program

Initiate Epidemiological Investigation
- Schedule epidemiological interview and comprehensive lead inspection
- Document all communication (phone, letter, fax)

Why?
- CGS § 19a-111
- RCSA § 19a-111-3(c)(1)

Completion of Epidemiological Investigation
- Completed Epidemiological Form
- Completed comprehensive lead inspection
  - Tested all painted surfaces
  - Taken all samples (dust, bare soil and water)
  - Receipt of all laboratory results
- All information must be entered in Maven

Why?
- CGS § 19a-111
Inspection of Other Dwellings

- Must occur if a child <6 lives in the same building as an EBLL child
- Must include testing of all defective surfaces (interior, exterior and common areas)

Why?
- RSCA § 19a-111-3(c)(2)
- RSCA § 19a-111-2(a)(b)(d)(e)

Begin within 30 days from Notification of EBLL – Complete ASAP

State of Connecticut
Department of Public Health

Lead Inspection and Testing Summary Form

This lead inspection and testing statement form must be completed and sent to the property owner of the property in accordance with Sections 19a-111-3(a) and 19a-111-2(a) of the regulations of Connecticut State Agencies concerning Lead Poisoning Prevention and Control. A Comprehensive Lead Inspection is to performed to satisfy CGS 19a-111j (methodological requirements for the EBLLs and children). These areas, that such areas are required to be dusted for the purposes of the lead inspection.

Property Inspected/Examined:
- Early Education
- Child Care Center
- On-Going Care/Parent
- Family Day Care Home

(Check Only) Comprehensive Lead Inspection

Lead Test

Street Address: ___________________________ Apt: _________ Floor: _________
City: __________ Zip Code: _________ Telephone: _________
State: _________ Zip Code: _________ Telephone: _________

Lead Test:

- CGS § 19a-111j
- RCSA § 19a-111-3(d)

Must be submitted 2 days after completion of Epidemiological Investigation
Notification Sign

- Posted at every entrance
- By property owner
  - Template on dph website "For Local Health"

Why?
- RCSA § 19a-111-3(e)

Must be posted 2 days after receipt of Inspection Report

Lead Abatement Order

- Lead order must be:
  - Issued and signed by DoH
  - Sent to Property Owner
    - By certified mail with return receipt
    - Hand delivered with date documented
  - Enter date issued into Maven

Why?
- CGS § 19a-111
- CGS § 19a-111j
- Lead Program Response Protocol Step 5

Completed within 30 days from Notification of EBLL

What do you do........

- If you have not received all environmental lab results within 30 days from notification of an EBLL?
  - Order letter must be sent for lead painted surfaces and any positive environmental results that you have received
- After receipt of all environmental lab results
  - Send addendum to order letter for positive results
What is the “Notification of Inspection Results” date?
- Date that Property Owner received Lead Abatement Order letter
  - Date from return receipt of certified mail (green card)
  - Date that Lead Abatement Order was hand delivered
- Important reference date

Lead Management Plan
- Must be completed for intact leaded surfaces
- Must be submitted by property owner
- Template on DPH website “For Local Health”
Why?
- CGS § 19a-111j
- RCSA § 19a-111-2(c)

Must be submitted by property owner 60 days after receipt of notification of inspection results

Lead Abatement Plan
- Submitted by property owner
  - Can be completed by:
    - Property Owner
    - Certified Planner Project Designer
  - Verify certification
- Enter date received into Maven
- Template on DPH website “For Local Health”
Why?
- CGS § 19a-111j
- RCSA § 19a-111-5(a)

Submitted within 15 working days of notification of inspection results
Review Lead Abatement Plan
- Document date that lead abatement plan was received
- Read through abatement plan
  - Ensure all positive XRF results are addressed
  - Make sure that appropriate abatement methods are used verify contractor licenses
- Any questions call us
- Enter approved abatement plan date into Maven

Why?
- CGS § 19a-111j
- RCSA § 19a-III-5(a)

Start of Lead Abatement
- Approved Lead Abatement Plan
- Know actual start date
- Conduct site visit(s) during abatement
  - Verify Licensed Lead Abatement Contractor
  - Enter start date into Maven

Why?
- CGS § 19a-111j
- RCSA § 19a-III-5(a)

Abatement shall begin within 45 working days from notification of inspection results

Lead Abatement Completion
- Completed in a timely manner
- Document progress
- Enter completion date into Maven

Why?
- CGS § 19a-111j
- RCSA § 19a-III-5

The sooner the better!
Re-Inspection

- LHD notified of completed Lead Abatement
- LHD must conduct a re-inspection
  - Verify that all work was done according to approved abatement plan
  - Collect clearance dust wipe samples (LHD or Consultant)
    - Well, sill and floor in each room or area that was abated
    - Floor sample 10 feet from entrance of abated area
  - Enter date into Maven

Why?
- CGS § 19a-111j
- RCSA § 19a-111-3(h)(1)

Completed 10 working days after notification of completion of Lead Abatement

Letter of Compliance

- The following information must be included:
  - Date of re-inspection
  - Dust levels have been found to be in compliance
  - Include statement that the management plan for intact leaded surfaces must be followed (if applicable)
  - Completed by a Code Enforcement Official or Consultant

Why?
- RCSA § 19a-111-4(f)

Mail 5 working days after lead inspector has found dwelling free of lead hazards

Post Abatement Inspection Report

Completed by Code Enforcement Officials only

- Post Abatement Inspection Report includes:
  - Visual inspection
    - Document date
  - Passing clearance dust wipes
  - Statement indicating all surfaces have been abated
  - Management plan (if applicable)
    - Document date
  - Enter date into Maven
Post Abatement Inspection Report

- Send Post Abatement Inspection Report
- Property owner
- DoH
- DPH Commissioner
- Enter date into Maven
- Notify CT DPH to close case

Why?
- CGS §19a-111j
- RSCA §19a-111-3(h)(1)

Mail within 2 working days after re-inspection is completed

FYI........

Code Enforcement Officials can issue a combined Letter of Compliance/Post Abatement Inspection Report
Your Responsibility for “The Inspection”

- Identify the source(s) or potential source(s) of lead
  - Including non-environmental sources
- Investigate all accessible areas in the residence
  - Including all exterior structures
- Investigate other residences
  - Other units within building w/child< 6
  - Other residences the child frequents
  - Childcare

A Comprehensive Lead Inspection (CLI) must be done when

- EBLI ≥ 20 µg/dL venous
- Two 15-19 µg/dL venous tests > 90 days apart
  - Shall begin within 5 working days
- Other dwelling unit with child < 6 years
  - Must be conducted within 30 days
- Licensure for OEC
CLI Must be conducted by

- Trained Code Enforcement Official (CEO) 
  - Must be current with training certificate
- Licensed Lead Consultant
  - Certified Lead Inspector
  - Certified Lead Inspector/Risk Assessor

Be Prepared

- Review Surfaces that you need to test
  - 19a-111-3(1) (A&B) interior and exterior
- Field kit:
  - Test kit
  - Dust wipes with tubes
  - Zip lock bags (five for sampling)
  - Water sampling bottles (at least 2)
  - Labels
  - Room layout sheets
  - Laboratory collection forms
- Tool box with:
  - Flashlight
  - Camera
  - Tape measure
  - Gloves
  - Zip lock bags for soil sampling
  - Tape for template
  - Paint scraper/hammer
  - White paper

- Room Layout Sheets
  - Interior, exterior, common areas
- Laboratory Collection Forms

Be Prepared

- XRF
  - DPH has 3 (2 LPA 1s, 1 Heuresis)
  - On loan at Local Health Department
    1. Meriden (Heuresis)
    2. Stamford (LPA 1)

Make sure battery is charged!
XRF Safety

- Must be trained in Radiation Safety (web based training)
- Must handle with care
- Minimize exposure by distance and shielding
- Keep others from being on the side of the XRF when operating
- Must wear a dosimeter badge

Starting your interior inspection

- Your safety is priority!!
- Proceed room to room in systematic, orderly fashion
- Show orientation
  - A, B, C, D
  - Note locations of doors, windows, closets, stairs
  - Name & # rooms/areas
  - Note condition of paint
  - Note housing issues that need correction prior to Abatement
  - Don’t forget Common Areas

Don’t forget the exterior

- Walk/survey the property
- Use A, B, C, D orientation
- Sketch all exterior buildings
  - detached garages
  - porch
  - sheds
  - play area/play ground equipment
  - gardens
  - fence
Soil Sampling

**Supplies:**
1. Disposable gloves
2. Hard shell containers
3. Labels - marker
4. Lab forms
5. Spoons
6. Bag for completed samples
7. Bag for trash

- Sample bare soil - drip line, play areas, gardens, etc.
  - Note sample locations on exterior sketch
  - Document sampling methodology (grab vs. composite)
- Results are reported in ppm or µg/mg

**Action/Hazard Levels:**
- **400 ppm** = control hazard
- **≥ 5000 ppm** = permanent abatement method

Soil Sampling Methodology

**Two types:**
- **Composite soil sampling**
  - Multiple grab samples equidistant over an area
  - Combine grab samples from one side of the dwelling into one composite
  - Use core tool or plastic spoon
  - Go to ½ inch deep
  - Include paint chips if present
  - No more than 10 grabs per composite

- **Grab Soil Sampling**
  - One sample per location
  - Use core tool or plastic spoon
  - Go to ½ inch deep
  - Include paint chips if present

Water Sampling

**Supplies:**
1. Water collection container from DPH Lab
2. Labels - marker
3. Lab forms
4. Bag for completed samples

- Collect when water has not been used for **6 hours**
- Collect 2 water samples per dwelling
- Label both water bottles (1st & 2nd draw)
Water Sampling

First draw water sample:
- Collect as soon as water is turned on
  - Identifies:
    - Premise plumbing (Water service lines within the home)
    - Fixtures

Second draw water sample (flush sample):
- Collect after 2 minutes of flushing
  - Identifies:
    - Water from exterior service line/well

Action/Hazard level:
15 ppb = 15 µg/L = 0.015 mg/L

Dust Wipe Collection

Supplies:
1. Disposable gloves
2. Ghost Wipes - required
3. Hard shell containers
4. Labels - marker
5. Lab forms
6. 1 sq ft template or ruler
7. Masking tape
8. Bag for completed samples
9. Bag for trash

- Must sample Floor & Window Sill
- Document/describe location
- Place in labeled container and submit to lab

- Always change gloves between sample collection
  - Do not touch anything other than the wipe and the surface to be sampled

- Fold the wipe completely before inserting it in the tube

- Consider pre-labeling dust wipes tubes

- Clean any templates between sampling locations

- A minimum of 2 unused or blank wipes must be submitted
  - 1–20 dust wipes samples = 2 blanks
  - Then add 1 blank wipe for every additional 20 samples submitted
  - 21–40 dust wipes samples = 3 blanks
  - 41–60 dust wipes samples = 4 blanks
  - **MUST** include the dimensions of sampling area

Action/Hazard level:
Floors: ≥ 40 ug/ft²
Interior Window Sills: ≥ 250 ug/ft²
Paint Chip Sampling

- XRF results are inconclusive
- No flat surface to test
- XRF instrument will not fit in the area to be tested

Supplies:
1. Disposable gloves
2. Labels
3. Hard shell containers
4. Cutting device
5. Bag for Collection

- Document/describe location
- Cut and collect 1-4 sq. inches of paint (sample all layers)
- Place in labeled container and submit to lab
- Inspector must repair surface if it was intact

Action/Hazard Level:
≥ 0.5% by weight or 5,000 ppm

EPA approved Lead Swabs

- Are these approved in CT as an acceptable method for testing for the presence of lead?

NO!
Other Samples

- Spices
- Pottery
- Toys
- Cosmetics
- Candy
- Candy wrappers
- Ayurvedics
- Hobby supplies

Lab Submission Form

Supplies:
1. Disposable gloves
2. Hard shell containers
3. Labels - marker
4. Lab forms
5. Bag for completed samples

- Call us in advance
- Description of product
- Obtain original product with packaging if possible
- Take pictures of product
- Place in labeled container
- Submit to DPH lab

Dr. Katherine A. Kelley Public Health Laboratory
395 West Street
Rocky Hill, CT 06067

MAIN NUMBER
(860) 920-6500

FAX
(860) 920-6710

Sample/Specimen Receiving
(860) 920-6680

Outfitting (Supplies)
(860) 920-6674/6675
XRF Analyzers 101

• Instrument exposes a painted surface to radiation emitted from a sealed source
• The source is cobalt-57 (Co-57)
• Co-57 emits energy in the form of gamma rays
• The elements in the paint are “excited” and respond by emitting energy in the form of x-rays, this response in known as fluorescence

XRF Use & Operation (LPA I specific)

• Geiger counter
  - Take readings before and after use
• Choose a job number (new unit)
• Set abatement level (1.0 mg/sq.cm)
• Calibration: In “Time Corrected” mode (select mode)
  - Measure standard calibration block (1.0 mg/sq.cm.) \textit{3 times}
  - Record on data form (0.7-1.3 acceptable)
  - Measure blank side (0.0 mg/sq.cm) \textit{3 times for reference}
• Go to “Quick” mode (select mode) - complete all measurements
• Repeat calibration step at end of job and/or every 4 hours

Heuresis Video
Post Abatement Testing:

<table>
<thead>
<tr>
<th>Types of Abatement</th>
<th>Type of Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement of window/door/trim</td>
<td>Clearance dust wipes</td>
</tr>
<tr>
<td>Paint Removal</td>
<td></td>
</tr>
<tr>
<td>• Chemical stripping</td>
<td></td>
</tr>
<tr>
<td>• Mechanical stripping</td>
<td></td>
</tr>
<tr>
<td>• Wet scraping</td>
<td></td>
</tr>
<tr>
<td>• Wet sanding</td>
<td></td>
</tr>
<tr>
<td>• Wet gas</td>
<td></td>
</tr>
<tr>
<td>Encapsulations</td>
<td></td>
</tr>
<tr>
<td>• Rigid enclosure</td>
<td></td>
</tr>
<tr>
<td>• Cementitious</td>
<td></td>
</tr>
<tr>
<td>• Liquid</td>
<td></td>
</tr>
<tr>
<td>Soil* of landscaping material</td>
<td></td>
</tr>
<tr>
<td>• Mulch</td>
<td></td>
</tr>
<tr>
<td>• Soil</td>
<td></td>
</tr>
<tr>
<td>Surfacing/tiling/mixing</td>
<td></td>
</tr>
<tr>
<td>• Including after exterior work</td>
<td></td>
</tr>
</tbody>
</table>

Clearance wipe sampling must be done:

- In every room where abatement was done
- Common areas where abatement was done
- Entrance and exit of abatement area
Clearance Standards:
Floors:    < 40 µg/ft²
Window sills: < 250 µg/ft²
Window wells: < 400 µg/ft²
Soil:      < 400 ppm or mg/kg

Lead Abatement Waste Disposal
- Homeowner and Lead Abatement Contractor are responsible for managing waste
- Up to 10 cubic yards
  ✓ Homeowner is allowed to dispose of
- > 10 cubic yards
  ✓ TCLP (Toxicity Characteristic Leachate Procedure)

Hazardous waste:
5 mg/kg, 5 mg/l or 5 PPM

DEEP Regulation
CT Hazardous Waste:
- Must be shipped/transported by permitted transporters
- Must go to a permitted hazardous waste treatment, storage or disposal facility (TSDF)
Waste Disposal

For additional information on hazardous waste handling requirements

CT DEEP:
Ross Bunnell
(860) 424-3274
Methods of Abatement

What is Abatement?

**Definition:**
Abatement means any set of measures designed to *eliminate lead hazards* in accordance with standards established… including, but not limited to, the encapsulation, replacement, removal, enclosure or covering of paint, plaster, soil or other material containing toxic levels of lead….

Abatement Methods

Per 19a-111-4(o)(3)(A-C)

1. Replacement
2. Encapsulation
3. Removal

**Note:** Enclosure is a form of encapsulation
1. Replacement
   - Removal of components containing lead-based paint
   - Replaced with new components

Examples of replacement:
- Windows
- Doors
- Trim

Note: Replacement is feasible for many exterior and interior architectural components

2. Encapsulation
   Types of encapsulant:
   - Rigid encapsulant (ex. enclosure)
   - Liquid encapsulant
   - Cementitious encapsulant
2. Encapsulation

- Permanent cover over the lead-based surface
- Lead-based paint inaccessible if applied correctly
- Liquid Encapsulants contain bitrex (makes surface unpalatable)
- Surfaces with lead-based paint are covered & sealed
- Shall bond to the substrate (not just the surface paint)

**Note:** All encapsulated surfaces must be included on a lead management plan

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Examples of Rigid Encapsulants:

- Vinyl siding
- Dry wall
- Fiberglass
- Wood

---

DPH Approved Liquid/Cementitious Encapsulants:

- LeadLock
- L-B-C Lead Barrier Compound Type III/Child Guard
- Plaster-In-A-Roll
- Faster Plaster Wall Liner

**Note:** Only products listed on the DPH Registry are authorized for use in CT. Must follow manufacturer's guidance for application thickness.
2. Encapsulation

The following ARE NOT encapsulants:

- A new coat of paint or primer
- Wall paper coverings
- Contact paper
- Any unapproved encapsulant
- Any products advertised as a lead-based paint sealant

3. Removal of Lead Paint

Removal methods include:

- Chemical stripping
- Mechanical stripping
- Wet scraping/Wet sanding

Note: Must be XRF tested <1.0 mg/cm² after removal is done, documented and placed in environmental file

3. Removal of Lead-Based Paint

Chemical stripping:

- Stripper is applied and removed by manual scraping
- Variety of removal products
- All layers of lead-based must be removed
3. Removal of Lead-Based Paint

Mechanical Stripping
- Requires the use of power tools:
  - Needle guns (metal surfaces)
  - Vibrating, belt and rotary sanders
  - Other impact strippers that employ the use of steel studs that rotate in an enclosed head to impact the painted surface (metal surfaces)

Note: Mechanically powered abatement equipment requires the use of HEPA-equipped vacuum attachments.

Wet sanding/scraping:
1. Manually removes loose and peeling paint
2. Mist the peeling paint before scraping/sanding
   - reduces the amount of lead dust
3. Paint chips and dust that are generated must be controlled

Heat Gun:
- Softens the paint
- Then scraped off

Note: To prevent vaporization, the temperature must not exceed 700 degrees Fahrenheit
3. Removal - Soil Abatement

- Placement of mulch/grass seed/landscaping material:
  - Visual inspection
  - Verify depth of material
  - 6 inches
- Removal/replacement:
  - Test replacement soil prior to replacement
  - Request copies of lead test from contractor
ENCAPSULANTS REVIEW

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Manufacturer</th>
<th>Reclassification Options</th>
<th>Rearranged Flame</th>
<th>Propagation</th>
<th>Ignition Source</th>
<th>Ambient CTE</th>
<th>Ignition Source</th>
<th>Rearranged Flame</th>
<th>Propagation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1</td>
<td>Example Corp.</td>
<td>Option A, Option B</td>
<td>Option C</td>
<td>Option D</td>
<td>Option E</td>
<td>Option F</td>
<td>Option G</td>
<td>Option H</td>
<td>Option I</td>
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<tr>
<td>Example 2</td>
<td>Example Corp.</td>
<td>Option A, Option B</td>
<td>Option C</td>
<td>Option D</td>
<td>Option E</td>
<td>Option F</td>
<td>Option G</td>
<td>Option H</td>
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<td>Option A, Option B</td>
<td>Option C</td>
<td>Option D</td>
<td>Option E</td>
<td>Option F</td>
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</tr>
<tr>
<td>Example 4</td>
<td>Example Corp.</td>
<td>Option A, Option B</td>
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<td>Option E</td>
<td>Option F</td>
<td>Option G</td>
<td>Option H</td>
<td>Option I</td>
</tr>
</tbody>
</table>

**REMINDER!**

- Application of all authorized encapsulant products must be done in the method and thickness instructed by the manufacturer

Question:
Why should we test substrates and encapsulants?

Answer: To test and demonstrate the substrate and/or encapsulant is effective.

---

**PRODUCT FACT SHEETS**

Each approved encapsulant on the Registry of Authorized Encapsulants have a product fact sheet. All product fact sheets state:

- Product description
- Application to achieve required product thickness
- Recommended uses
- Prohibited uses
- Surface preparation
- Application
- Occupancy information
- Cautions
- Warranty
- Care & maintenance

Refer to the manufacturer for detailed instructions on how to use their specific product.
THE APPLICATION & MAINTENANCE OF LIQUID ENCAPSULANTS: FOR CODE ENFORCEMENT OFFICIALS, PROPERTY OWNERS, LEAD CONSULTANTS & LEAD CONTRACTORS

This guidance document (20 pages) includes:

- Definition & Background Information
- Related Information for Encapsulant Use
- Eligibility of Surfaces
- Encapsulation Permitted with Preparation
- Common Preparation Procedures
- Tools and Personnel
- Test 1: 3-Cut Tape Test
- Test 2: Patch Test
- Before Application Information
- Maintenance

Documentation:

- Lead Paint Surface/Substrate Assessment Form
- Encapsulant Maintenance Form (management plan)
SURFACE PREPARATION FOR X-CUT TESTS

- General cleaning
- Surface repairs
- De-glossing
- Mold/mildew removal
- Surface priming

TEST 1: X-CUT TEST (TESTING THE SUBSTRATE)

1. Clean surface
2. Use a utility knife and make two (2) straight cuts in the paint film down to the substrate. These cuts must be about two (2) inches long, intersecting near the middle to form an “X”. DO NOT cut into the substrate.
3. Inspect the cuts to establish that the paint film has been penetrated to the substrate. If not, repeat steps 1 and 2 in a different location. DO NOT attempt to deepen a previous cut.
4. Take a 3” length of tape and place the center of the tape at the intersection of the cuts.
5. Smooth the tape into place over the “X” and rub the tape firmly.
6. After 90 seconds, remove the tape by pulling straight down with a quick smooth motion.

INTERPRETATION OF SCORES

- PASS: No more than 1/8" of paint removed on either side of the cuts.
- FAIL: 1/8" or more of paint removed from the cuts.
TEST 2: PATCH TEST (TESTING THE ENCAPSULANT)

1. Apply the test patch of encapsulant.
2. Examine the patch for bubbling, cracking, and any other defects. If more than 10% of patch is defective, it FAILS. Do not continue.
3. Use a utility knife and make two (2) straight cuts in the patch of encapsulant into the paint film down to the substrate. These cuts must be about two (2) inches long, intersecting near the middle to form an "X". DO NOT cut into the substrate.
4. Inspect cuts with flashlight to establish that the encapsulant and underlying paint film have been penetrated to the substrate. If not, repeat steps 1-3 in a different location. DO NOT attempt to deepen a previous cut.
5. Take a 3" length of tape and place the center of the tape at the intersection of the cuts. Rub firmly.
6. After 90 seconds, remove the tape by pulling straight down with a quick smooth motion.

NOTE: This scoring is different from the X-Cut Tape Test

INTERPRETATION OF SCORES

0 = No paint/encapsulant removed. (PASS)
1 = Removal of less than ½" of paint/encapsulant on either side of the cuts. (PASS)
2 = Removal of greater than ½" of paint/encapsulant on either side of the cuts or removal of paint/encapsulant more than 1/8" away from the cuts. (FAIL)
Licensed Lead Abatement Contractors must keep log of X-cut and Patch test

WHERE TO FIND Registry and Application & Maintenance of Liquid Encapsulant Manual

All of the following documents can be found on www.ct.gov/dph/lead under the heading "Lead Abatement Guidance Document"*
LEAD PRACTITIONERS

• Who are they?
• Where can I find them?
• What do their Certificates or Licenses look like?
• Why is it important?

WHO ARE THEY?

• In Connecticut
  Two types of Practitioners Regulated
  ✓ Licensed
  ✓ Certified
REMEMBER............
COMPANIES ARE LICENSED

HIRE CERTIFIED INDIVIDUALS

LICENSED LEAD PRACTITIONERS

- Licensed Lead Abatement Contractor
- Licensed Lead Consultant Contractor

Certified Lead Practitioners

- Certified Lead Abatement Worker
- Certified Lead Abatement Supervisor
- Certified Lead Inspector
- Certified Lead Inspector Risk Assessor
- Certified Lead Planner Project Designer
THE BREAKDOWN

LICENSED LEAD ABATEMENT CONTRACTOR

CERTIFIED
- Lead Abatement Supervisor
- Lead Abatement Worker

LICENSED LEAD CONSULTANT CONTRACTOR

CERTIFIED
- Lead Inspector
- Lead Inspector Risk Assessor
- Lead Planner Project Designer

Where can I find them?
WWW.CT.GOV/DPH
THIS IS WHAT THE ROSTER LOOKS LIKE...

What do the License, Certification Cards and Training Course Certificates look like?

CT DPH ISSUED

New Photo ID:
- Name of person
- Credential title
- License/Certificate number
CT DPH ISSUED

- Name of person, License/Certificate number, Expiration date, Credential title

EXAMPLE OF CERTIFICATE FROM TRAINING COURSE

IT IS IMPORTANT TO KNOW ......

- Lead Abatement Plan
  - Check Licenses for approval
  - Keep copies with the approved plan

**Must be Licensed or Certified to be in/on an active Lead Abatement site**
IT IS IMPORTANT TO KNOW .......

Inspection on Lead Abatement job site:
* Check All Licenses and Certifications
  ✔ Document:
  1. Companies License number and name
  2. All individuals on site
     i. Certification numbers
     ii. Expiration date on their Training Course certificate
**Must be Licensed or Certified to be in/on an active Lead Abatement site

WHO ELSE CAN DO LEAD ABATEMENT IN CT?

HOMEOWNERS – IN THEIR OWN HOMES

But is not encouraged!
OFFICE OF EARLY CHILDHOOD

Types of Facilities:

1. Child Care Center and Group Child Care Center
2. Family Child Care Home

CHILD CARE CENTER AND GROUP CHILD CARE CENTER
Child Care Center/Group Child Care Center

■ New Center
  - Comprehensive lead inspection required (paint, dust, water, soil)
  - Prior to opening
  - Conducted in all approved areas (interior, exterior and common areas)
  - Completed by DPH Licensed Lead Consultant
  - Identifies where lead is
    ■ Intact = lead management plan
    ■ Defective = lead remediation plan

Child Care Center/Group Child Care Center

■ Existing Center
  - Comprehensive lead inspection should be on file
    ■ Any missing components must be completed
      - Missed areas
      - New room(s)
    ■ Completed by DPH Licensed Lead Consultant
  - Identifies where lead is
    ■ Intact = lead management plan
    ■ Defective = lead remediation plan

Child Care Center/Group Child Care Center

■ LHD’s Role(s)
  - Review Lead Hazard Remediation Plan
    ■ Lists all area(s) where lead hazards were identified and how they will be remediated
    ■ Remediation must be completed by an EPA RRP Certified Firm
    ■ Must be approved by LHD before work can begin
  - Review Lead Management Plan
    ■ Lists all area(s) where intact lead is
      - Including areas that were remediated (paint and soil)
      - Must be approved by LHD at completion of remediation (if needed)
Child Care Center/Group Child Care Center

- LHD’s Role(s)
  - Completion of work
    - Clearance dust wipes must be conducted (by a DPH licensed lead consult or LHD)
    - Confirm all clearance dust wipes pass
  - Perform a visual inspection confirming work is complete
  - Issue a letter of compliance
    - Provide a copy to Center Operator, DPH and OEC
  - Center Operator must retain copies of all information on file

FAMILY CHILD CARE HOME
WITH A CHILD < 6 RESIDING

- OEC staff
  - If a dwelling built before 1978, take a paint chip sample
  - Paint chip sample sent to DPH Lab
  - Negative for lead
    - No further actions
  - Positive for lead
    - Triggers 19c-111 regulations (Non EBLL case)
      - Abatement of all defective surfaces

Family Child Care Home
with a child < 6 residing

- OEC staff
  - If a dwelling built before 1978, take a paint chip sample
  - Paint chip sample sent to DPH Lab
  - Negative for lead
    - No further actions
  - Positive for lead
    - Triggers 19c-111 regulations (Non EBLL case)
      - Abatement of all defective surfaces
Family Child Care Home with a child < 6 residing

**LHD's Role(s)**
- Conduct a comprehensive lead inspection
- Issue order for lead abatement
- Review Lead Abatement Plan
  - Abatement must be completed by a DPH Licensed Lead Abatement Contractor
  - Must be approved by LHD before work can begin
- Review Lead Management Plan
  - Lists all area(s) where intact lead is
    - Including areas that were abated (paint and soil)
    - Must be approved by LHD at completion of abatement

Family Child Care Home with a child < 6 residing

**LHD’s Role(s)**
- Completion of work
  - Clearance dust wipes must be conducted
    - Confirm all clearance dust wipes pass
  - Perform a visual inspection confirming work is complete
  - Issue a letter of compliance/post abatement inspection report
    - Provide a copy to Provider, DPH and OEC
  - Provider must retain copies of all information on file

FAMILY CHILD CARE HOME WITH NO CHILD < 6 RESIDING
NEW RULE
October 2017

■ If limited surface area
  – Less than 6 square feet of defective paint on the interior
  – Less than 20 square feet of defective paint on the exterior
    ▪ Not required to test - first warning
  – Provider must develop a corrective action plan to stabilize defective painted surfaces
    ▪ OEC must visually verify painted surfaces have been made intact
■ Remember, no child < 6 resides

MORE THAN LIMITED
Family Child Care Home with a no child < 6 residing

- **OEC's Role(s)**
  - If a dwelling built before 1978, has **more than limited surface area defective**
  - Take a paint chip sample
  - Paint chip sample sent to DPH Lab
  - Negative for lead
    - No further actions
  - Positive for lead
    - Must have a comprehensive lead inspection conducted by a DPH Licensed Lead Consultant
      - Conducted in all interior, exterior and common areas
      - Completed by DPH licensed lead consultant

Family Child Care Home with a no child < 6 residing

- Provider must submit
  - Lead Hazard Remediation Plan to DPH
    - Lists all area(s) where lead hazards were identified and how they will be remediated
    - Remediation must be completed by an EPA RRP Certified Firm
    - Must be approved by DPH before work can begin
  - Lead Management Plan
    - Lists all area(s) where intact lead is
      - Including areas that were remediated (paint and soil)
      - Must be approved by DPH at completion of remediation

Family Child Care Home with a no child < 6 residing

- **DPH's Role(s)**
  - Review Lead Remediation Plan
    - Remediation must be completed by an EPA RRP Certified Firm
    - Must be approved by DPH before work can begin
  - Review Lead Management Plan
    - Lists all area(s) where intact lead is
      - Including areas that were abated (paint and soil)
      - Must be approved by DPH at completion of remediation
Family Child Care Home with a no child < 6 residing

- DPH’s Role(s)
  - Completion of work
    - DPH Licensed Lead Consultant
    - Conduct clearance dust wipes testing
    - Confirm all clearance dust wipes pass
    - Perform a visual inspection confirming work is complete
    - Issue a letter of compliance/post abatement inspection report
  - Provide a copy to Provider, DPH and OEC
- Provider must retain copies of all information on file

Contact:
- Kimberly Ploszaj
- Epidemiologist
- (860) 509-7959
- kimberly.ploszaj@ct.gov
Local Health Department:
DCF Lead Paint Assessment Protocol

DCF protocol:
- DCF staff does not collect paint chips
- Presume that deteriorated surfaces in pre-1978 homes contain lead-based paint
  - Correct these surfaces using lead-safe work practices
Current protocol

Application to renew or become a Foster Home
- Include LR&HHP developed documents:
  - Are There Potential Lead Hazards in My Home?
  - Next Steps Guidance for Deteriorated Paint for Foster Home Applicants

Are There Potential Lead Hazards in My Home?

Guidance for DCF Foster Home Applicants

- Does the DCF require a risk check?
- Yes, a risk check is performed when you apply to become a licensed foster care home or renew your license. During this risk check, the DCF worker will visually
  verify the paint condition.
- DCF wants to ensure the health and safety of every child that is placed in a foster home. In an effort to address this, your home will be viewed to have all
  deteriorated paint removed prior to DCF licensure.

You should have NO deteriorated painted surfaces!

What is a deteriorated painted surface?
- A deteriorated painted surface is considered to be chipping, peeling, flaking, cracking paint causing 5% or more paint in area of your home.

- My home has deteriorated painted surfaces, now what?
  - If your home was built before 1978, your home is visited by a DCF worker, you should clean and repaint the deteriorated surfaces using lead safe
work practices.

Next Steps Guidance for Deteriorated Paint in Homes Built Prior to 1978

Deteriorating paint on the interior or exterior parts of your home was identified by the DCF case worker and your home was built prior to 1978. Prior to
becoming a licensed Foster Home the chipping peeling paint will need to be
removed. You will need to contact your local health department to help you identify a lead tested remediation
firm (RT) to work beginning. Beginning the work without the approval of the local health department will jeopardize your foster home application with DCF. DCF
will NOT license your home without a letter of compliance from your local
health department.

1. DCF will notify the local health department of the locations of the deteriorated painted surfaces on the interior and exterior of your home.

2. If you own the home and it is a single family dwelling, you can either correct the deteriorated painted surfaces yourself using lead safe work practices, or hire an EPA certified Remediation, Repair, and Painting (RRP) firm.
   Directions on how to find an RRP firm are attached.
   OR
   If you live in a multi-family or multi-family, the property owner must be notified by DCF of the deteriorated paint. DCF will also notify your local health department. The property owner must either become an EPA certified RRP firm or hire one, in order to correct the deteriorated painted surface in a lead safe manner.
What are the next steps?

- DCF reviews and processes the foster home application
- Schedule site visit

What happens during the site visit?

- DCF performs site visit
  - Homes built before 1978
    - Verify paint condition
      - Intact surfaces
      - Continue with application process

What if there is defective paint?

- Defective paint
  - DCF will provide the applicant again with the "Next Steps Guidance for Deteriorated Paint for Foster Home Applicants."
  - Single-family owner occupied
    - Property owner can correct deteriorated surfaces
    - Hire an EPA certified Renovation, Repair and Painting (RRP) Renovator
What if it is a rental property?

- Rented Dwelling (single or multi-family)
  - Property owner and LHD must be notified by DCF
  - Property owner can become an EPA certified Renovator and Firm
  - Hire an EPA (RRP) Renovator

How is defective paint documented?

- DCF will document defective paint using the “Identification of deteriorated painted surfaces” sheets
How does DCF notify Local Health Departments?

DCF will complete “DCF Notification Letter to Local Health Department”

- Include Identification of deteriorated painted surfaces sheets

---

DCF Notification Letter to Local Health Department

(depending on certain conditions)

Dear Local Health Department,

On [Date], I conducted a site visit at [Address] in response to aチャー home application submitted by the department of health and safety. During the site visit, I identified areas where improper paint was present due to [reason]. The circumstances of the home are as follows:

- [Age of children in residence]
- [Age of adults in residence]

Any adult or child under the age of six years is in residence.

- [Single family owner occupants, children of the home, must perform the work]
- [Single family owner occupants, children of the home, must perform the work]

Children under the age of six years in residence.

- [Occupants, children of the home, must perform the work]

In cases where work is performed, it must undergo clearance dust suppression testing.

Please take the necessary actions to ensure compliance with the required regulations.
What does the Local Health Department do?

- Provide guidance to property owner
  - Verify defective surfaces according to "Identification of Deteriorated Surfaces" sheet(s)
  - Assist property owner complete the Model Lead Hazard Remediation Plan (if necessary)
  - Approve Remediation Plan

After the work has been completed…

LHD can take clearance dust wipes
or
Refer property owner to a DPH Licensed Lead Consultant (see “Who to Hire for Clearance Sampling”)

MODEL LEAD HAZARD REMEDIATION PLAN

Who to Hire for Clearance Sampling
To find a Connecticut Lead Consulting Professional

Go to https://www.elicense.ct.gov/Lookup/GenerateRoster.aspx

Scroll down and click on Lead Consulting and Abatement Professionals

Check the box next to Lead Consultants

Scroll down to and click on Continue. You can download to Excel, CSV or Text files.

What happens after samples have been tested?

- Receive acceptable clearance sample results
- LHD conducts a visual assessment
- LHD completes and mails compliance letter template to DCF

Letter of Compliance Template

[Template content]

[Link to Foster Home Documents]
Final Steps..

DCF receives compliance letter from LHD

Continue with DCF Application Process
January 2017 - HUD modified the Lead Safe Housing Rule (LSHR) to enhance the protections from lead hazards that the current regulations provide.

Amendment compliance by July 13, 2017

1. Revising HUD's definition of elevated blood lead level (EBLL)
2. Enhancing the level of inspection protocol for a unit with a child with an EBLL
3. Following state or local government requirements that have established more protective standards
1. REVISING HUD'S DEFINITION OF EBLL

• In 2012, the CDC lowered its reference value for lead in the blood of children under age six to five micrograms per deciliter
• Consistent with CDC’s guidance, HUD is now using the reference value of five micrograms per deciliter to identify children with an EBLL

2. UPDATED INSPECTION PROTOCOL

• The LSHR amendment requires that an environmental inspection occur in a unit:
  • receiving tenant based rental assistance, such as Section 8
  • where a child under the age of six resides
  • with an EBLL greater than or equal to five micrograms of per deciliter

• HUD’s environmental inspection includes:
  • a lead risk assessment
  • the completion of a questionnaire
  • Table 16.2 Guidelines for Questions to Ask Regarding a Child’s Environmental History, as advised in the Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (2012 Edition)
3. FOLLOWING CT STANDARDS

- There are several key differences in definitions and response requirements between HUD and Connecticut.
- HUD requires that, if a state or local government establishes more protective standards, that housing authorities follow those standards.

**WHAT’S DIFFERENT IN CONNECTICUT?**

- If defective lead-based paint surfaces or bare soil areas with hazardous levels of lead are identified during a HUD risk assessment,
- CT lead regulations are triggered!
- This requires a comprehensive test of the dwelling unit in which the child resides.
AND...

- This also requires that any other dwelling units (e.g. other apartments) within the same building, where a child less than 6 resides, have a comprehensive inspection.
- CT regulations are more strict.
  - HUD requires under this amendment that if a state has a more strict approach, that the PHAs must follow that procedure.

PHAS AND LEAD INSPECTIONS

Best practice approach:

- PHAs, housing firms or towns can develop a relationship with the local health departments and hire them to complete the required lead inspection (if resources are available)
  - OR
- PHAs, housing firms or towns can hire a DPH licensed lead consultant.

RESOURCES AND TOOLS
**CIRCULAR LETTER 2018-08**


- DPH developed a training manual for public housing authorities (PHAs)
- DPH has co-presented, with HUD, at several training sessions for PHAs

**TRAINING MANUAL**

- DPH developed a training manual for public housing authorities (PHAs)
- DPH has co-presented, with HUD, at several training sessions for PHAs

**THE GOALS**

- To ensure that PHAs are following the more strict requirements in CT
- To limit an increase workload for LHDs
  - Once 19a-111 regulations are triggered, LHD must respond
  - LHDs are not required to perform the lead inspections
DATA SHARING

- Data may only be obtained from DPH, not from a local health department.
- Data may only be obtained if PHA has a confidentiality/data sharing agreement with DPH.
- DPH reports any matched EBLL data to the PHA quarterly.

DATA MATCHING
**DATA SHARING AGREEMENTS**

- To date, we’ve executed confidentiality/data sharing agreements with 12 PHAs (3 new PHAs will report during this upcoming quarter), 1 housing firm and the Department of Housing.
- PHAs were selected based on the amount of housing choice vouchers they administer and the town having the availability of HUD funding for property owners.
- Due to staffing limitations, DPH was not able to move forward with executing confidentiality/data sharing agreements with all PHAs statewide.
- DPH will continue to work with HUD’s Region 1 Office in hopes to obtain a 100% of the housing choice voucher address data.
- The existing confidentiality/data sharing agreements capture approximately 79.7% of all the housing choice vouchers in CT.

**TOTAL MATCHES/EBLLS BY QUARTER**

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Total Number of Lead Confirmed EBLL of ≥ 5 µg/dL</th>
<th>Total Number of Confirmed Data Matches</th>
<th>Percentage of Children Residing in Subsidized Housing with a Confirmed EBLL of ≥ 5 µg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1/17 to 6/30/18</td>
<td>1541</td>
<td>44 (unique children)</td>
<td>49/1541 = 3.2%</td>
</tr>
</tbody>
</table>

**QUESTIONS**
CONTACT INFO:
Kimberly Ploszaj
Epidemiologist
State of CT Department of Public Health
Lead, Radon and Healthy Homes Program
(860) 509-7959
kimberly.ploszaj@ct.gov
Lead Complaints

Our #1 Goal = Preventing Lead Poisoning

Most Commonly Found

- Paint
- Dust

In Pre-1978 homes
Got LEAD?

Lead Laws: State and Federal
Lead Poisoning Prevention and Control Regulations
19a-111-1 through 19a-111-11

- Definitions
- Applicability of regulations
- Regulatory response protocols
- Notification
- Abatement approval
- Abatement of lead

19a-111-1 through 19a-111-11
- Methods of abatement
- Time periods for compliance
- Post abatement inspections
- Worker protection
- Occupant protection

Containment
Problems we’ve seen:

**Uncertified**
- lead abatement workers
- lead abatement supervisors
- lead inspector/risk assessors
- lead planner/project designers

**Unlicensed**
- lead abatement contractors
- RRP firms
- home improvement contractors
- lead consultant contractors
Liquid Encapsulant

* Would this product look acceptable to you?
* Yes? No? Maybe?
* How do you know?

Liquid Encapsulants

* All liquid encapsulants must be approved by DPH
* Although other products are sold, and even approved by HUD, they MUST be approved by DPH
* All approved encapsulants are listed on the "Lead, Radon and Healthy Homes Program Registry of Authorized Encapsulant Products"
**Reporting**

**Failure to Report**

**PART I EXECUTIVE SUMMARY**

A combined Lead-Based Paint Inspection and Risk Assessment was performed at [Redacted]. The combined Lead-Based Paint Inspection and Risk Assessment was performed for the Lead Action for Medicaid Primary Prevention (LAMPP) Program on September 18, 2014. A historic review letter has been sent to the Connecticut Commission on Culture and Tourism and the results are pending. The site building consists of a single-family residential building.

Three (3) children under six (6) years old resided in the dwelling at the time of inspection. The State of Connecticut Lead Poisoning Prevention and Control Regulations (19a-111-r through 19a-111-x) along with U.S. Department of Housing and Urban Development (HUD) and U.S. Environmental Protection Agency (EPA) regulations apply to the site building. None of the children had an Elevated Blood Lead Level (EBLL) at the time of inspection; however, two (2) of the children had levels that are at or above the level of concern, which is 5 µg/dL set forth by the United States Centers for Disease Control and Prevention (CDC).

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### Table: Lead-Based Paint Inspection and Risk Assessment

<table>
<thead>
<tr>
<th>Surface</th>
<th>Inspected</th>
<th>Lead</th>
<th>Risk</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Window</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Wall</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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**B. Initial Risk Value of SIP 
(Enter if appropriate)**

- **Floor**: Yes
- **Window**: Yes
- **Wall**: Yes
- **Ceiling**: Yes

**C. Site Improvements**

- Yes

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**D. Lead Management Plan**

- Yes
Failure to Report

- Toxic levels of lead were found that require lead abatement
- CGS 20-478, require licensed lead consultants to comply with the 19a-111 regulations
- The company violated the regulatory requirement that when an inspector "finds a toxic level of lead requiring abatement, the inspector shall report this to the owner, local director of health, and the commissioner".

EPA Renovation, Repair and Painting Rule (RRP)

What is the RRP Rule?
The RRP Rule:
- establishes requirements for companies and individuals performing renovations
- affects contractors, property managers and others who disturb painted surfaces
- applies to work in houses, apartments and child-occupied facilities built before 1978
- includes pre-renovation education requirements
When Does the RRP Rule Apply?

- Anyone who is paid to perform work that disturbs more than 6 square feet of paint on the interior or 20 square feet on the exterior, of a house or child-occupied facility, built before 1978 must be certified
- Rent = COMPENSATION

What activities are covered?

- Remodeling and repair
- Maintenance
- Electrical work
- Plumbing
- Painting preparation
- Carpentry
- Window replacement

How to Become Certified

Companies = CERTIFIED FIRM
- Register on EPA’s website
- Costs $300
- Valid for 5 years

Individuals = CERTIFIED RENOVATOR
- Take an 8 hour class
- Costs vary between $150-$300
- Valid for 5 years
Complaints

Mechanical Sanding and Dry Scraping

Mechanical Sanding and Dry Scraping
Mechanical Sanding and Dry Scraping

Uncontained Debris
What Authority does a LHD have?

REGULATIONS

Regulations
The following regulations may be used to order correction of a nuisance:
- 19a-206
- 19-13-B1
- 19-13-B2
- 47a-52 (tenement housing – nuisance)
- 47a-54f (tenement housing – paint nuisance)

Resources
Helpful Websites:
• www.ct.gov/dph
• www.epa.gov
• www.osha.gov

CT HUD Funded Programs

<table>
<thead>
<tr>
<th>State of Program</th>
<th>City/Region</th>
<th>Contact Name &amp; Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT Child's Healthy Homes Program</td>
<td>Bridgeport</td>
<td>Chris Saccacini – 203-776-4393</td>
</tr>
<tr>
<td></td>
<td>New Haven</td>
<td>Fred Mignone – 203-776-4405</td>
</tr>
<tr>
<td></td>
<td>Hartford</td>
<td>Hansel Koons – 203-776-4406</td>
</tr>
<tr>
<td>Buglesee (a HUD-funded program)</td>
<td>Bridgeport</td>
<td>Carol Major – 203-901-4711</td>
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<tr>
<td></td>
<td>New London</td>
<td>Paul Verrilli – 203-776-4500</td>
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<tr>
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<tr>
<td></td>
<td>Norwich</td>
<td>Jonathan Charnes – 203-776-4500</td>
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<tr>
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<td>Joe Siedel – 203-776-4500</td>
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LEAD POISONING IS 100% PREVENTABLE.