



The National Training Institute
for Child Care Health Consultants

Environmental Health in Child Care: Lead



- Your Name
- Agency
- Date



Introductions/Icebreaker

- Please share your name and the agency for which you work.
- Summarize the article or describe the item that you brought with you and how it relates to lead in the child care environment.



Training Objectives

- Name sources of lead in the child care environment.
- Describe the effect lead exposure has on the health of young children.
- Identify actions necessary to prevent and manage lead exposure in the child care environment.



Activity: Assessment

1. Divide into small groups.
2. Each team should have a set of response cards, blank paper and markers.
3. Questions from Assessment will be read aloud.
4. Each team has 15 seconds to decide their response and display the card with chosen response.



Question 1

- Which of the following is the *primary* source of lead in the child care environment?
 - a. Lead in water
 - b. Lead in soil
 - c. Lead in paint
 - d. Lead in food



Question 2

- What is the *primary* route of lead exposure for young children?
 - a. Putting hands or other objects covered with lead dust into mouths
 - b. Playing in dirt that contains lead
 - c. Drinking water that contains lead
 - d. Eating foods that contain lead



Question 3

- In what year was lead-based paint banned in the U.S.?
 - a. 1958
 - b. 1968
 - c. 1978
 - d. 1988



Question 4

- Which of the following are possible *secondary* sources of lead for children?
 - a. Old toys
 - b. Old mini blinds
 - c. Keys
 - d. All of the above



Question 5

- All of the following are health effects of *low* levels of lead exposure EXCEPT:
 - a. Lower IQ scores
 - b. Learning disabilities
 - c. Behavioral problems
 - d. Cavities



Question 6

- All of the following are health effects of *high* levels of lead exposure EXCEPT:
 - a. Kidney damage
 - b. Glaucoma
 - c. Convulsions
 - d. Death



Question 7

- Why are children most vulnerable to lead poisoning?
 - a. They ingest more lead due to hand-to-mouth activity
 - b. Their gastrointestinal tracts absorb more lead
 - c. Their brains and nervous systems are still forming
 - d. All of the above



Question 8

- Which of the following groups are at risk for lead poisoning?
 - a. Children ages birth to two years who live or are cared for in housing built prior to 1950
 - b. Children with parents/guardians who are remodeling a house built before 1978
 - c. Children with parents/guardians who are construction workers or are regularly exposed to lead
 - d. Children who are victims of abuse and neglect
 - e. All of the above



Question 9

- List three actions to prevent children's exposure to lead in the child care environment.

a. _____

b. _____

c. _____



Question 10

- List two nutrients that can be included in a child's diet that may help reduce the risk of lead poisoning.

a. _____

b. _____



Question 11

- Except at extreme levels, lead poisoning usually shows no obvious symptoms.
 - True
 - False



Question 12

- A blood test is the only way to know for sure if a child has lead poisoning.
 - True
 - False



Question 13

- Damage from elevated lead levels is permanent and continues to affect a child's functioning throughout life.
 - True
 - False



Question 14

- Childhood lead poisoning is preventable.
 - True
 - False



Activity: Glossary Search

1. Handout is in your packet.
2. Draw connecting lines between terms and definitions.
3. Work individually or with others.
4. Take 5 minutes to complete.
5. Review answers in large group.



Child Care Perspective

“Even though we may not have the scientific background, we need to pay attention not as toxicologists, chemists, or environmental sanitation experts but as those who make the children’s and staff’s well being a first priority...”

(Gratz and Boulton, 1993)

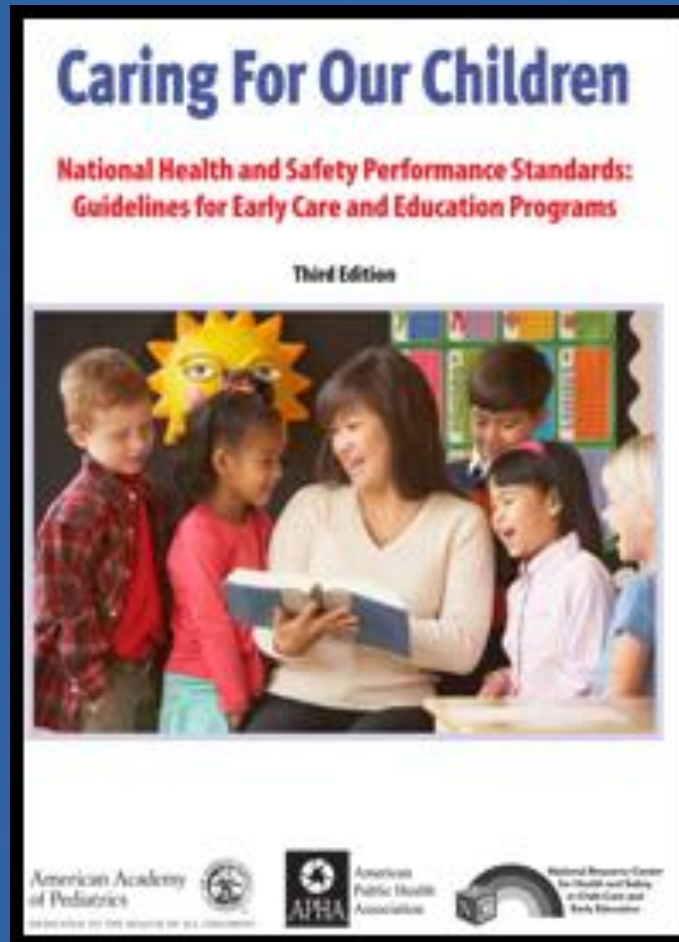


The Role of the CCHC

- Consultation
- Resource and Referral
- Policy Development
- Advocacy
- Health Education



CFOC National Standards (3rd ed., 2011)





Lead-Related CFOC Standards (3rd ed., 2011)

- Requiring appropriate handwashing
- Ensuring safety of all play equipment
- Keeping surfaces that come in contact with food lead-free
- Ensuring that the child care setting, including drinking water, equipment, materials, furnishings, and play areas, are free from lead
- Maintaining and displaying inspection reports involving lead



Primary Source of Lead

Lead paint

1978: Lead-based paint for houses banned

2004: 24 million housing units in U.S. have lead-based paint and dust



20% of these are home to one or more young children



Primary Source of Lead (continued)

- Lead-based paint deteriorates over time due to:
 - Moisture
 - Normal use
 - Disturbance during renovation projects
- Flakes or chips from lead-based paint deteriorate into dust that cannot be seen with normal vision.

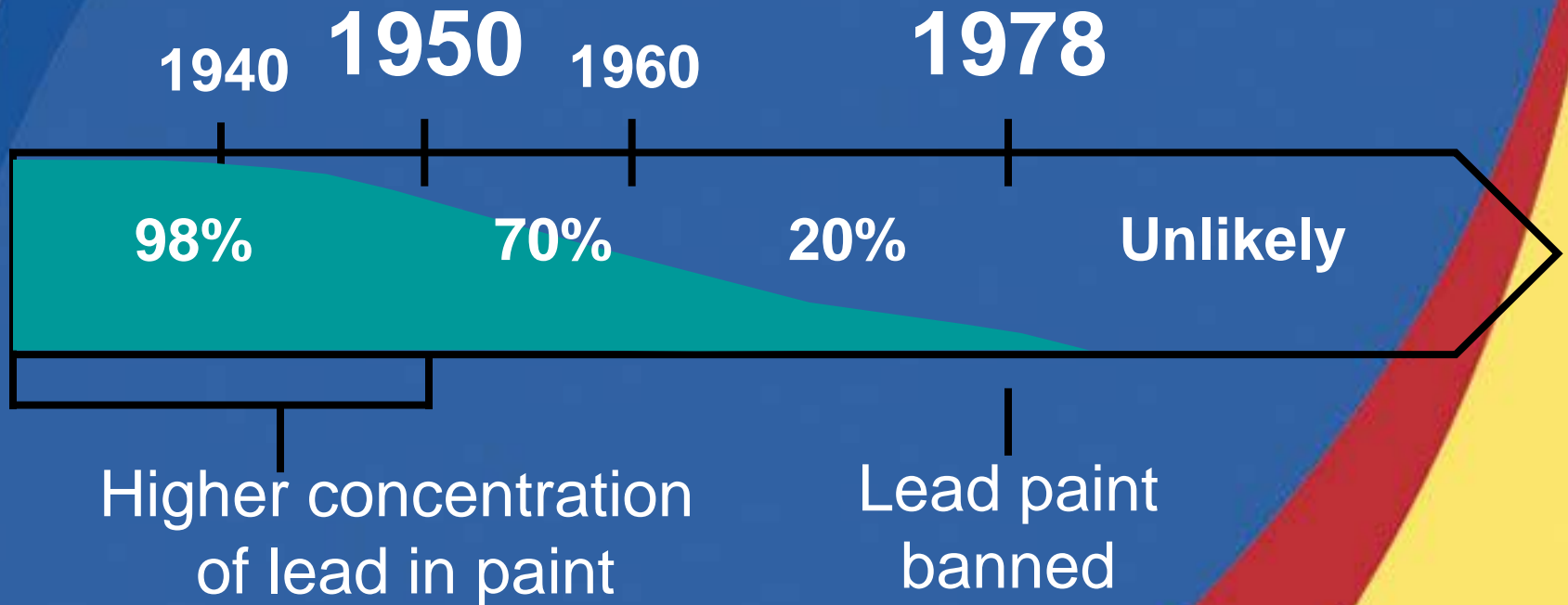


Leaded Paint

- Leaded paint does not pose a problem if it is:
 - Intact, encapsulated, enclosed or completely covered with non lead-based paint
 - Well maintained and the surfaces are kept clean



Risk of Lead Exposure Among Children in Child Care in Buildings/Houses Built by Year





Secondary Sources of Lead

- Contaminated drinking water
- Older or imported toys
- Arts and crafts materials (e.g., chalk, paints)
- Older or imported pottery
- Pewter



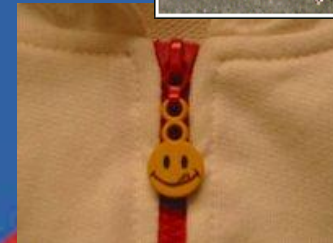
Secondary Sources of Lead (continued)

- Older or imported vinyl mini-blinds
- Older outdoor playground equipment
- Airborne lead from nearby industries



Secondary Sources of Lead (continued)

- Keys
- Candy
- Jewelry and charms
- Zipper pulls and decorations on clothing





Routes of Lead Exposure

- Ingestion
 - Hand-to-mouth activity
 - Attraction to sweet taste of lead chips
- Inhalation
 - Breathing lead-contaminated air or dust
- Exposure via placenta





Discussion Questions

1. Are there industries in your communities/regions which may increase lead exposure?
2. Have you known anyone who has been exposed to lead?
3. If so, what was the source of lead exposure?



Health Effects of Lead Exposure

- Affects every system in body
- Exposure to children more harmful than to adults



At Lower Concentrations

- Low concentrations can affect a child's:
 - Central nervous system
 - Kidneys
 - Reproductive system

(National Safety Council, 1995-2005)
- Low lead levels are associated with:
 - Learning disabilities
 - Behavioral problems
 - Decreased stature & growth
 - Impaired hearing acuity

(National Safety Council, 1995-2005)



At Higher Concentrations

Higher lead levels can cause:

- Kidney damage
- Coma
- Convulsions
- Death

(NSC, 1995-2005, AAP, 1999)

- Damage from elevated lead levels is **permanent** and continues to affect a child's functioning throughout life.

Symptoms of Lead Exposure



- No obvious symptoms at low levels
- Only confirmed through direct blood testing





Specific Children at Risk

Children who are

- Ages birth to two years who live or are cared for in housing built before 1950
- Living in poverty
- Victims of abuse and neglect
- Immigrants, including adoptees

(AAP, 2003; Schneider and Freeman, 2000; CDC, 1997)



Specific Children at Risk (continued)

Children who have

- Developmental delays
- Parents/guardians who are remodeling a house that was built before 1978
- Parents/guardians who are construction workers or are regularly exposed to lead
- A sibling or playmate who has or did have lead poisoning



Screening Through EPSDT

As part of Early Periodic Screening Diagnostic and Treatment (EPSDT), children with Medicaid are required to receive a lead toxicity screening at:

- 12 months,
- 24 months, and
- between 36 and 72 months of age if they have not been previously screened (CMS, 2005).



Treatment of Children with High Blood Lead Levels

- Chelation therapy used in children with blood lead levels above 45 micrograms per deciliter
- Cannot reverse effects of lead poisoning but can decrease further damage



Detection of Lead Hazards

- Do-it-yourself chemical spot test kits are *not recommended* due to limited sensitivity.
- Accurate detection requires the expertise of a *qualified lead professional (QLP)*.



Detection of Lead Hazards (continued)





Contacting a QLP

- Before contacting a QLP, the CCHC should assist child care staff in identifying potential lead hazards.
- To locate a QLP:
 - Contact state or local health department
 - Contact the National Lead Information Center (NLIC):
800-424-LEAD

1-



Helpful Tools

1. Assessment of Potential Lead Problems: Questions for the Child Care Staff
2. Notice of Potential Lead Contamination: Temporary Measures You Can Take
3. Recommended Actions for Prevention/Management of Lead Exposure in the Child Care Facility



Lead Hazards and Actions

- Age of building
- Location of facility
- Furnishings
- Facility cleanliness
- Personal hygiene
- Children's diet
- Food storage
- Art materials
- Toys/play equipment
- Play areas



Summary

For the children...



Let's get the lead out!



Activity: Case Scenario

1. Handout is in your packet.
2. Divide into groups. Select group leader and reporter.
3. Read scenario and answer questions.
4. Take 10 minutes to complete.
5. Report back and discuss answers.



Activity: “Get the Lead Out” Action Plans

1. Handout is in your packet.
2. Take 5 minutes, then individually write your responses to the first question.
3. Share your action plans.
4. Add new ideas under the second question.
5. Report back to group.



Activity: Assessment

- Assessment is in your packet.
- Take 5 minutes to complete.
- Review answers.



Activity: Evaluation of Trainer

- The evaluation form is in your packet.
- Please take 5 minutes to complete the form.