

CITY OF SAN DIEGO



**Lead Awareness Training
for
San Diego Residents**





ENVIRONMENTAL SERVICES DEPARTMENT

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Purpose of Today's Training

- ✓ Provide general background on lead hazards and related health effects
- ✓ Basic knowledge and signs of lead hazards
- ✓ Help prevent high levels of lead in the blood
- ✓ Learn how to safely fix certain lead hazards

WHAT IS LEAD?

- ✓ Lead is a heavy, bluish/gray, soft, malleable metal
- ✓ Known to be a hazard since ancient times
- ✓ Negative effects of lead were recognized by Ben Franklin in 1786
- ✓ Lead use and occupational exposures accelerated during the 1800's
- ✓ First case of lead paint poisoning was diagnosed in Australia in 1895



Lead Poisoning Has Multiple Sources

- ✓ 28% from lead paint and dust
- ✓ Other sources include: soil, pottery used for food, housewares, home remedies, imported candy, water, toys, soil, jewelry, hobbies, and occupational hazards



* Percentages are based on cases within San Diego County 5

Major Source of Lead Exposure: Lead-Based Household Paint

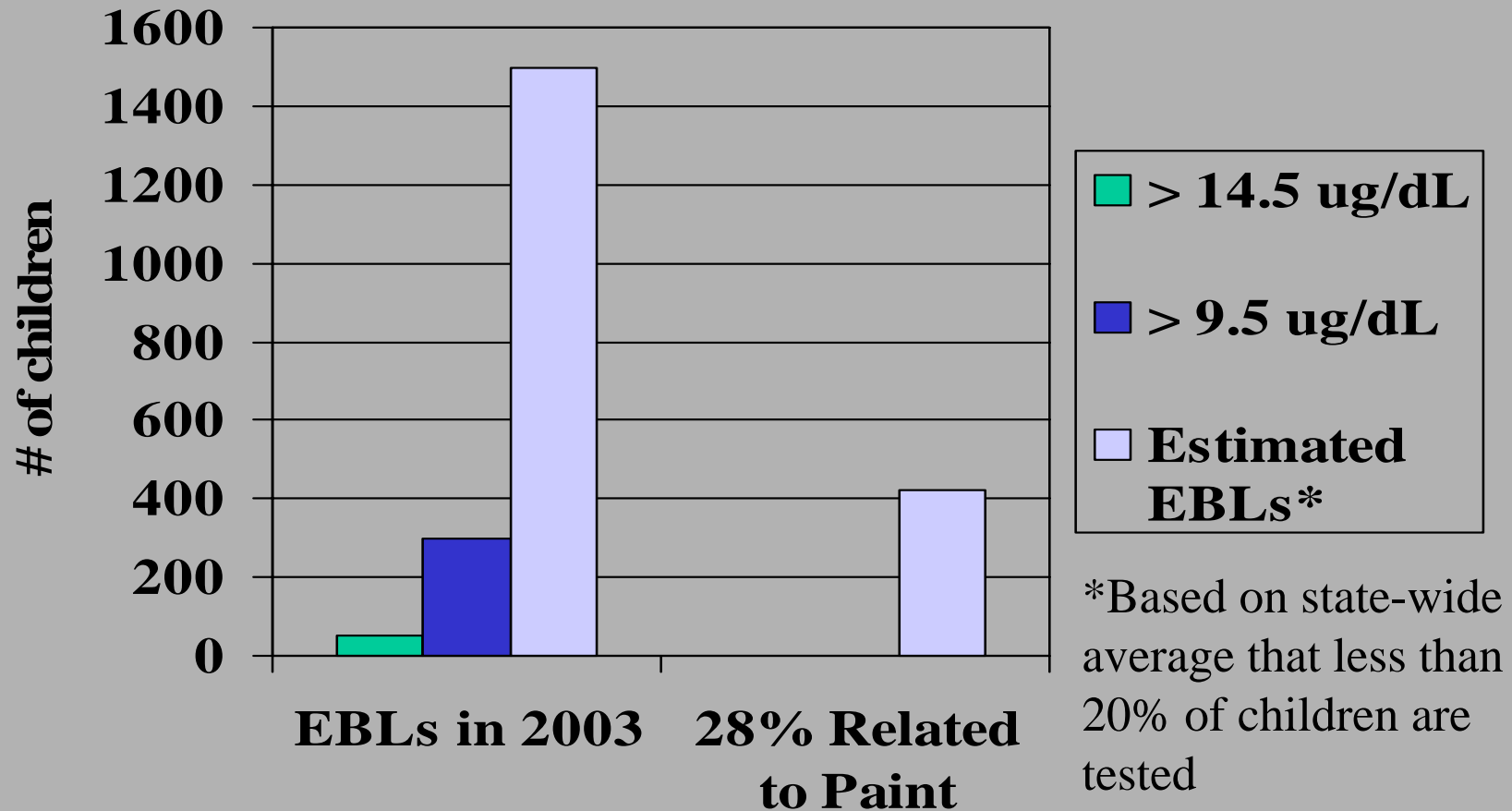
Paint sold before 1978 may contain lead

- ✓ Normal wear and tear of paint produces lead dust, the most common source of lead poisoning
- ✓ Deteriorating paint may produce dust and flakes
- ✓ Disturbing intact lead-based paint during remodeling, renovation, and maintenance can create a lead hazard

70% of San Diego housing was built before 1978

Childhood Blood Lead Poisoning in County of San Diego

CDC definition of lead poisoned child is ≥ 10 ug/dL
(Elevated Blood Lead - EBL)



At Greatest Risk: Very Young Children



Very young children, who crawl on the floor and put their hands and toys in their mouths, are at highest risk of exposure and are most susceptible to damage.

Main ways that lead gets into a child's body:

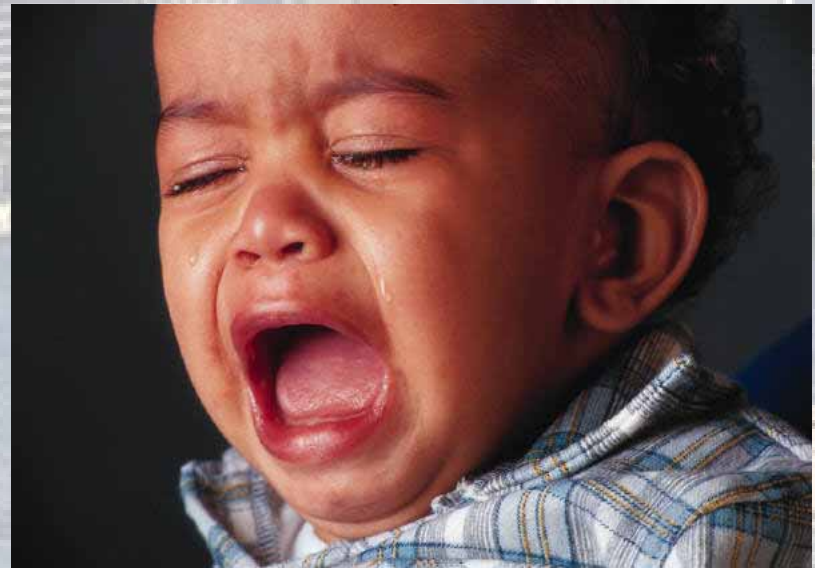
- ✓ **Swallowing** lead-paint dust or flakes, mainly through normal hand-to-mouth activity
- ✓ **Breathing** in lead dust

Even very small amounts of lead are dangerous.

Symptoms of Lead Poisoning in Children

USUALLY THERE ARE NO SYMPTOMS

- ✓ Fatigue
- ✓ Irritability
- ✓ Headache
- ✓ Constipation
- ✓ Stomachache
- ✓ Cramps
- ✓ Vomiting
- ✓ Weight loss



Lead's Effects on Unborn Children

- ✓ Lead from the mother's blood can pass to the unborn child
- ✓ Lead poisoning in unborn children can cause
 - Learning difficulties
 - Behavioral problems
 - Brain and nerve damage
 - Stillbirth and miscarriage
 - Premature birth
 - Low birth weight



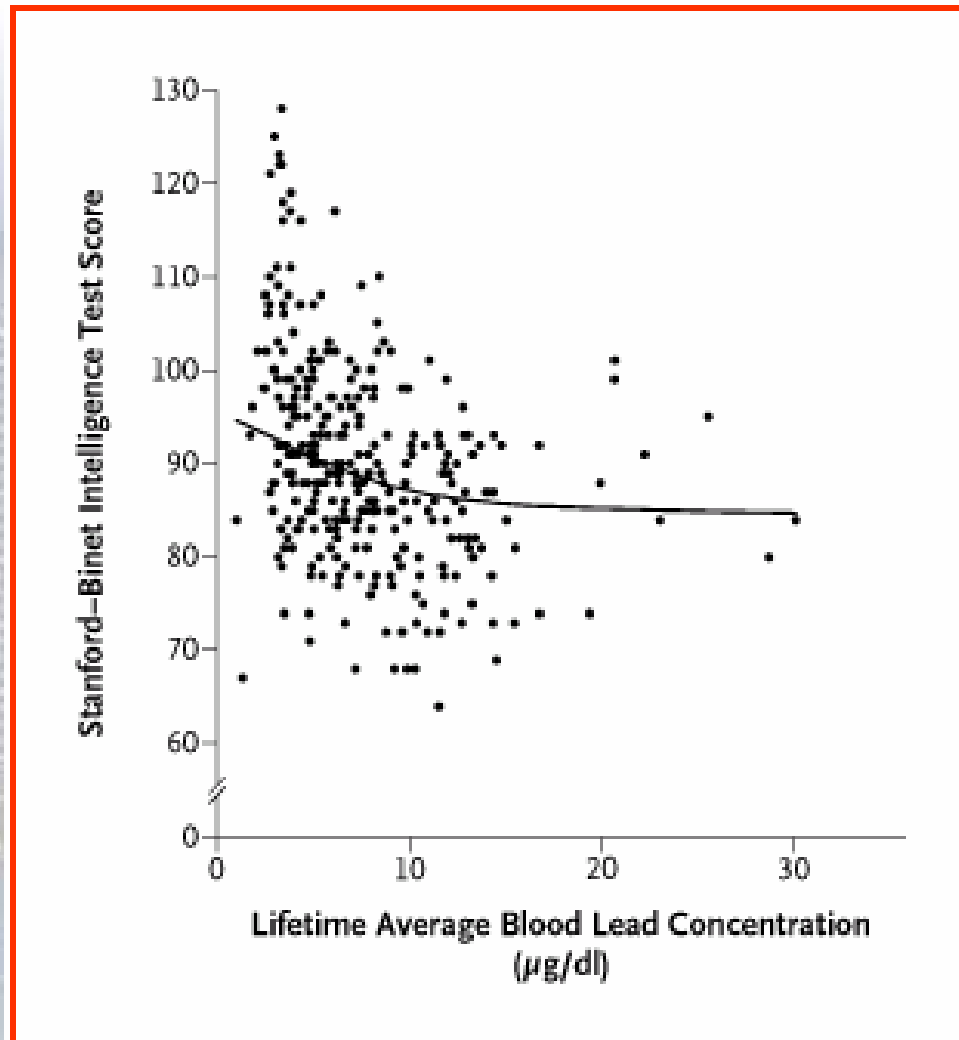
Lead's Effects on Babies and Young Children

- ✓ Can damage the brain and other parts of the nervous system
- ✓ Can cause behavior and learning problems
- ✓ Can reduce muscle and bone growth
- ✓ Can damage hearing
- ✓ Can cause death



Even children who seem healthy may have high levels of lead

**Highest
decrease in
child's IQ
occurs when
blood lead level
is less than
10 $\mu\text{g}/\text{dL}$**



New England Journal of Medicine; April
17, 2003

Symptoms of Lead Poisoning in Adults

- ✓ Fatigue
- ✓ Irritability
- ✓ Anxiety
- ✓ Depression
- ✓ Headache
- ✓ Sleeplessness
- ✓ Tremors
- ✓ Metallic taste in mouth
- ✓ Skin paleness, especially of the face
- ✓ Constipation or diarrhea
- ✓ Stomachache
- ✓ Cramps
- ✓ Vomiting or nausea
- ✓ Weight loss
- ✓ Muscle or joint pain
- ✓ Weakness in arms, legs, or wrists
- ✓ Loss of sex drive

Lead's Effects on Adults



✓ **Reproductive problems for men and women**

- ✓ **High blood pressure**
- ✓ **Digestive disorders**
- ✓ **Nervous system problems**
- ✓ **Difficulty with memory and concentration**

What You Can Do

- ✓ **Avoid damaging painted surfaces**
- ✓ **Clean floors and window sills and wells regularly with water and detergent**
- ✓ **Wash children's hands and toys frequently**
- ✓ **Teach children to keep non-food items out of their mouths**
- ✓ **Get children tested for lead poisoning**
- ✓ **Provide a well-balanced diet, low in fat and high in iron and calcium for your family**

LEAD-BASED PAINT HAZARD

- ✓ **A lead-based paint hazard is any condition that causes exposure to lead from lead-contaminated dust, soil or paint that is deteriorated or present on accessible, friction, or impact surfaces.**

Identify Deteriorated Paint

To identify deteriorated paint, you will need to answer this question:

Is the paint:

- peeling,
- chipped,
- chalking
- cracking?



If the answer to this question is yes, then the paint should be considered deteriorated.

Identify Deteriorated Paint

Is There Anything else You Should Look For?

When performing a visual assessment, you should look for:

- ✓ Paint chips or dust from painting activities that were not cleaned up.
- ✓ Paint residue on the floors
- ✓ Evidence of paint chips in soil near driplines on exterior surfaces



Identify Deteriorated Paint

These photos show evidence of substrate damage:

- ✓ The window sill has extensive moisture damage.
- ✓ The stair tread shows wear, tear and deterioration.



LEAD SAFE WORK PRACTICES

- Please refer to the brochure
“Reducing Lead Hazards When Remodeling Your Home”
for detailed procedure information.
 - Available in many languages from the website:
 - <http://www.epa.gov/lead/leadpbed.htm>

Benefits of Safe Work Practices

- Protect your health
- Protect your family by not bringing dust home with you
- Protect residents, especially children
- Simplify daily and final cleanup
- Enhance reputation for knowledge and professionalism

A photograph of a sailboat with a white sail on the water, with a city skyline in the background. The text is overlaid on the image.

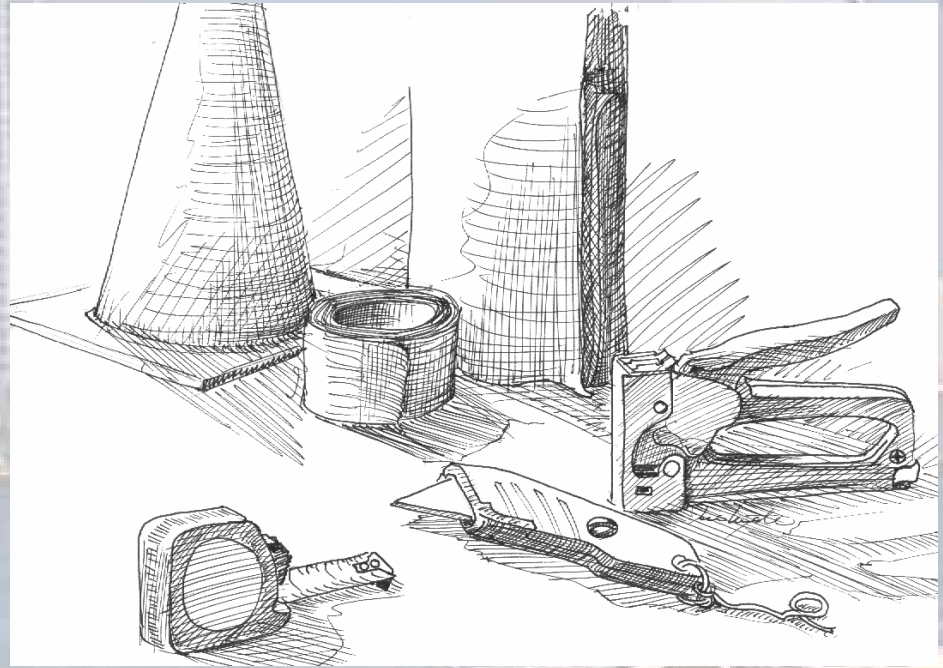
Set-Up Your Workspace to Contain Lead Dust

What Is Containment and Why Do It?

- Keeping lead-contaminated dust in the work area
- Benefits of containment
 - Protects residents and workers
 - Easier clean-up at the end of the job

Set-up Toolkit

- Barriers and signs
- Coverings for furniture, fixtures, plants, or outdoor play areas
- Other set-up containment items



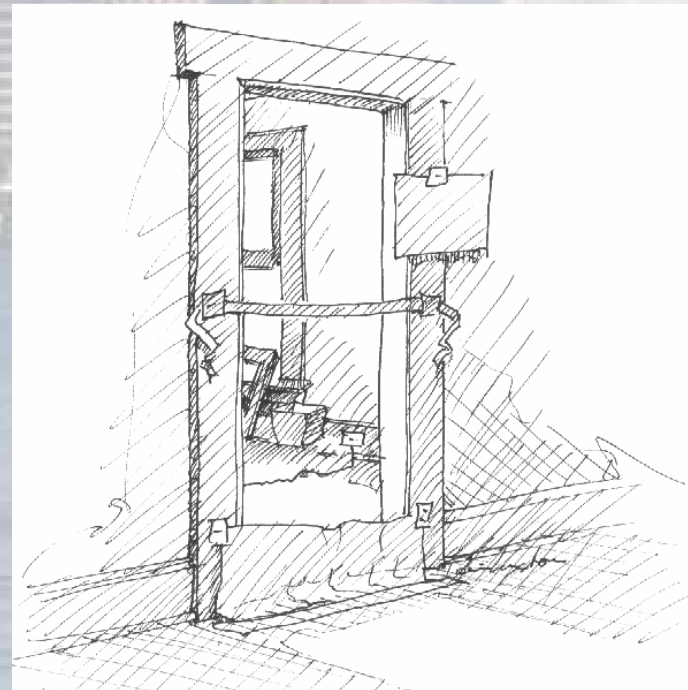
Set-up and Work Tools

- Please contact the City of San Diego's Lead Safe Neighborhoods Program if you need to borrow tools to complete the work
- We can also give you tips on how to purchase inexpensive supplies such as paint

Interior Set-Up

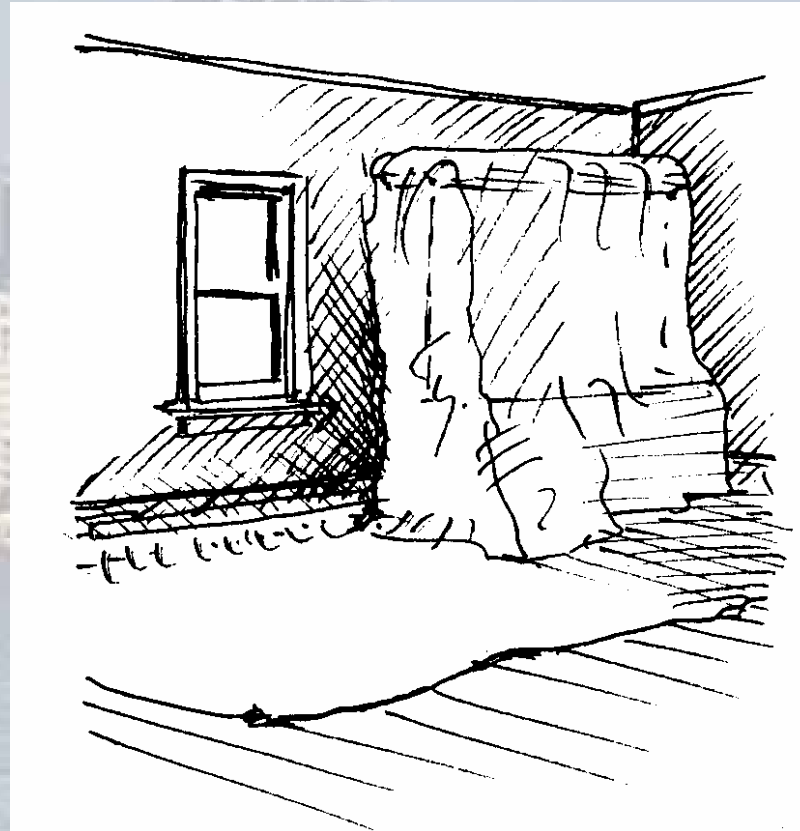
Step 1: Limit Access

- Don't let people or pets in the work area, especially children and pregnant women
- Place a barrier or tape across entrances
- Post warning signs
- Do not allow eating, drinking, or smoking in the work area



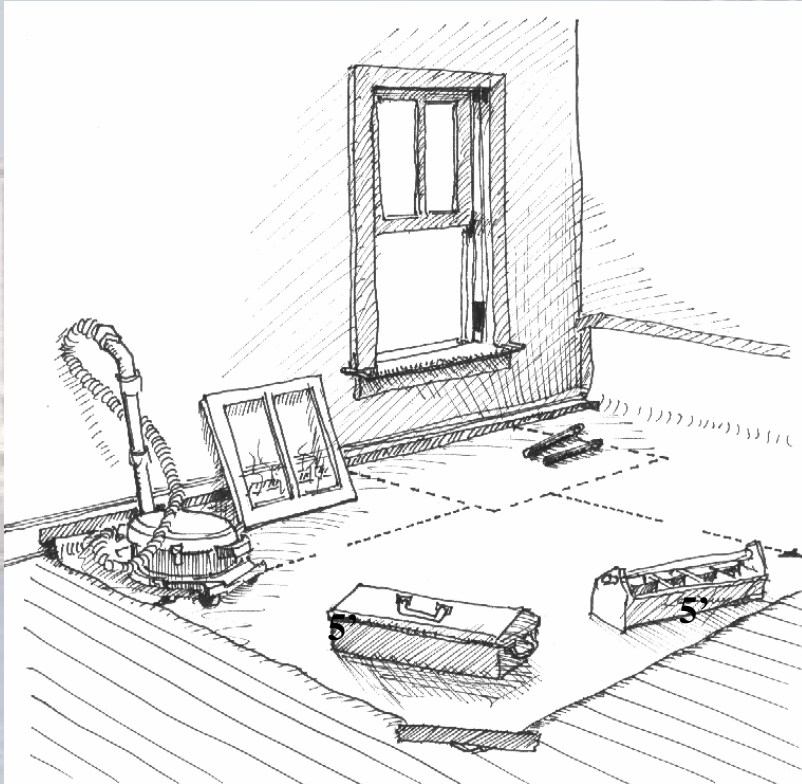
Interior Set-Up

Step 2: Remove and Cover Belongings



Interior Set-Up

Step 3: Cover Floors



- Cover floors with protective sheeting well beyond the work area

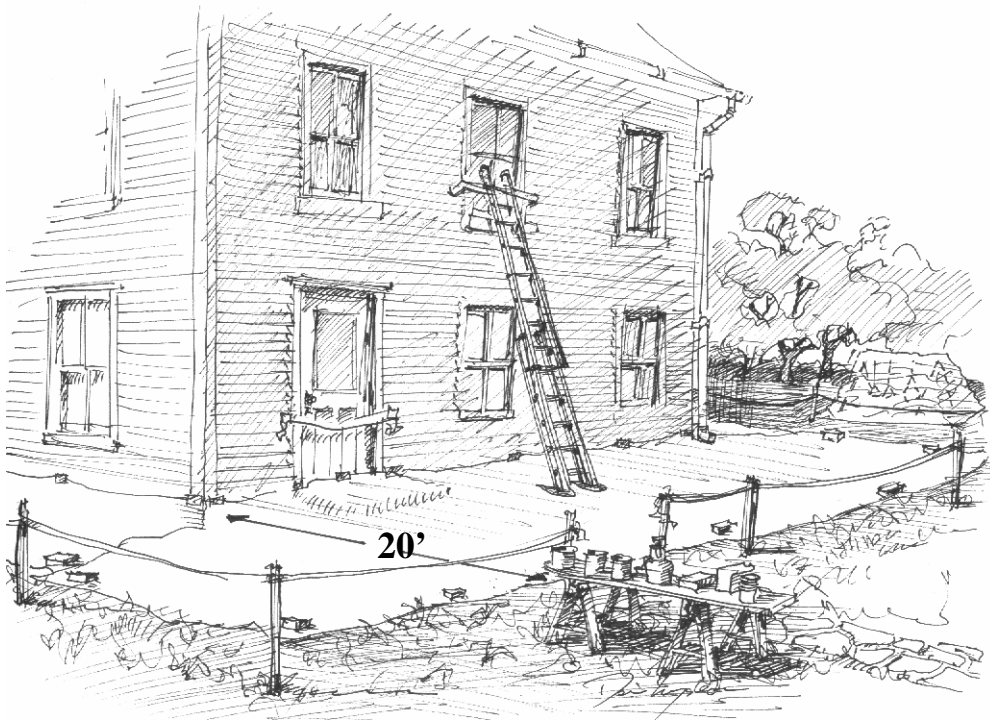
Interior Set-Up

Step 4: Close Windows, Doors, HVAC

- Close all windows and doors
- Close and seal HVAC vents

Exterior Set-Up

Step 1: Establish Work Area



- Cover the ground with protective sheeting
 - Extend at least 10 feet from work area
 - Cover nearby vegetable gardens and children's play areas
- Limit work area access
- Close Windows and doors

A photograph of a city skyline across a body of water. In the foreground, a white sailboat is on the right side. The city skyline in the background features several tall buildings, including a prominent one with a pointed top. The text "Safe Work Practices" is overlaid in the center in a bold, blue, serif font.

Safe Work Practices

Safe Work Practice Alternatives to High Risk Practices

High Risk – Don't Do!

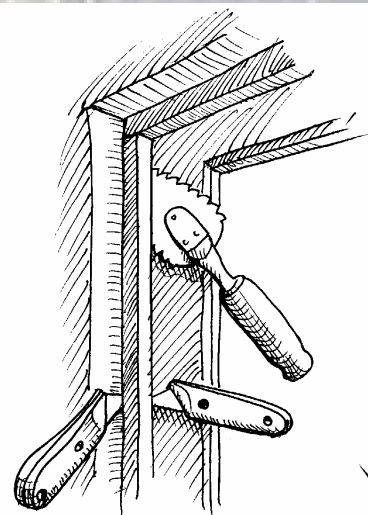
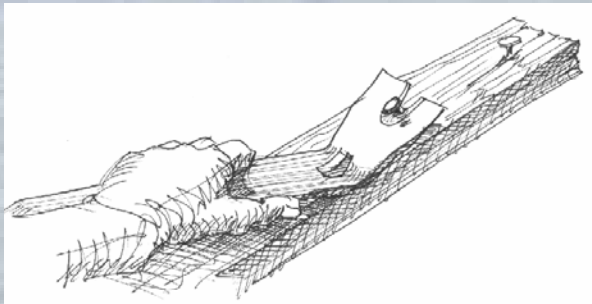
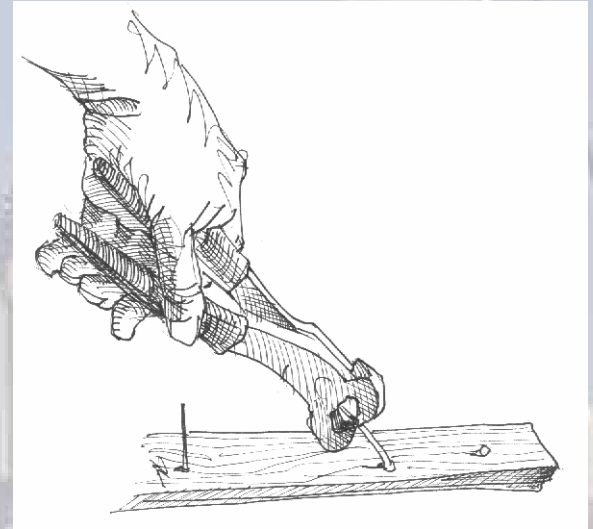
- ☒ Open flame burning or torching
- ☒ Heat gun on high (1,100+ degrees F)
- ☒ Dry scraping and sanding
- ☒ Power sanding, grinding, abrasive blasting without attachment to HEPA vacuum

Safe

- ✓ Wet scraping and sanding, chemical stripping, heat gun below 1,100 degrees F
- ✓ Heat gun below 1,100 degrees F
- ✓ Wet scraping and sanding
- ✓ Use of power tools with attachment to HEPA vacuum

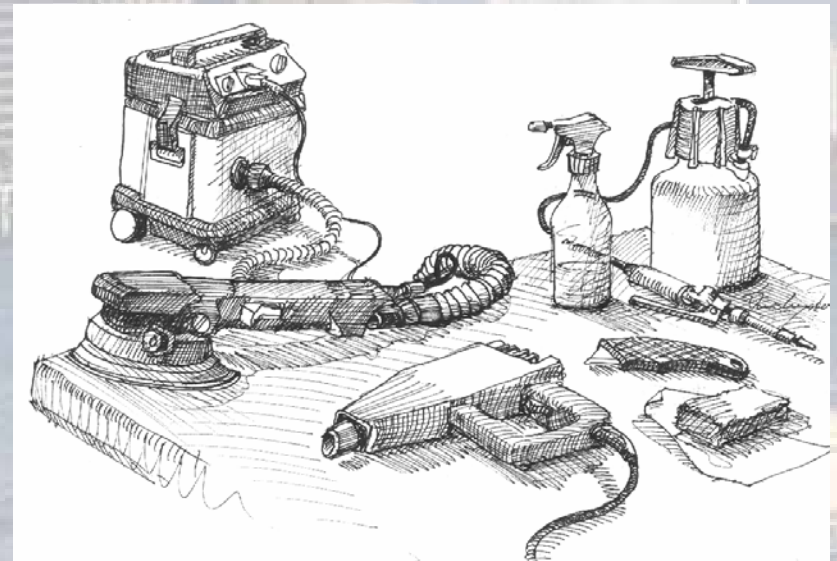
More Safe Work Practices

- Mist before drilling and cutting (hand tools only)
- Score paint
- Minimize pounding and hammering -- pry and pull instead
- Mist surroundings
- Use shaving cream



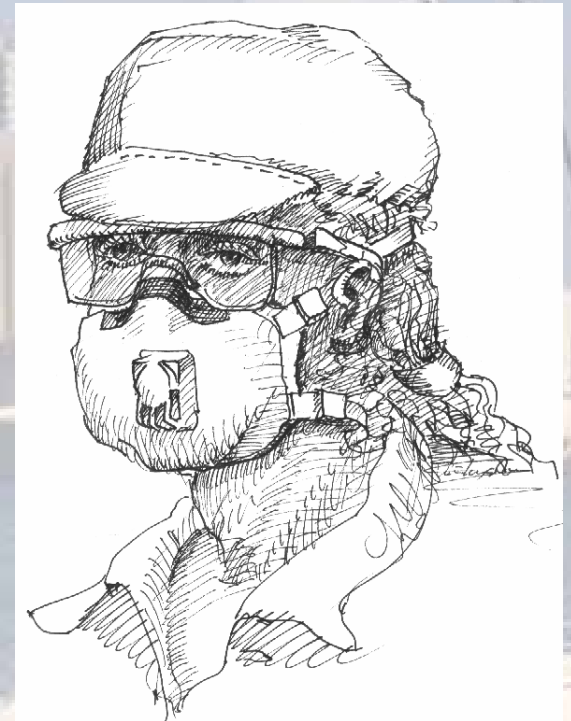
Safe Work Practices Toolkit: Tools, Equipment, and Supplies

- Wet/dry sandpaper, sanding sponge
- Heavy duty (4-6 mil) plastic sheeting
- Tape (painter's, duct, masking)
- Mist bottle, pump sprayer
- Heavy duty garbage bags
- Chemical stripper
- Utility knife
- Heat gun (<1100 °F)
- Vacuum with HEPA filter



Protect Yourself

- Important Protective Equipment
 - Disposable hand towels
 - Pre-moistened disposable wipes
 - Painter's hats
 - Gloves
 - Disposable Coveralls
 - Disposable shoe covers
 - N-100-rated disposable respirators
- Also, wash hands and face frequently when working



Control the Spread of Dust

- When you leave the work site
 - Remove shoe coverings, HEPA vacuum or wipe shoes
 - Use tack pads
 - Remove coveralls or HEPA vacuum clothes
- At the end of the day don't take lead home to your family on your clothes or in your car
 - HEPA vacuum clothes, shoes
 - Change your clothes and dispose or place in plastic bag to wash separately from household laundry
 - Wash hands, face
 - Shower as soon as you get home

Cleaning During the Job

- A clean work site reduces the spread of dust and paint chips
- Clean as you work
 - HEPA vacuum horizontal surfaces
 - Remove debris frequently
 - Remove paint chips as they are created
 - As building components are removed, wrap and dispose of them immediately
- Clean frequently (in stages, at least daily)

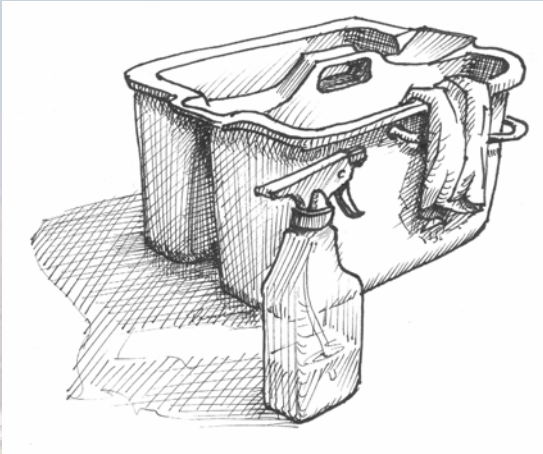
A photograph of a sailboat with a white sail on the water, with a city skyline in the background. The text "Clean-up and Check Your Work" is overlaid in the center.

**Clean-up
and
Check Your Work**

What is Effective Clean Up?

- Containing dust during clean-up to the area that will be cleaned
- Using proper cleaning techniques
- Cleaning all surfaces, tools and clothing
- Checking your work
 - This could include clearance testing
- Safe and secure disposal

Clean Up Toolkit



- Vacuum with HEPA filter
- Misting bottle and pump sprayer
- Mop with disposable heads
- Detergent
- Two buckets or two-sided bucket OR a “Swifter” type mop
- Disposable hand towels
- Heavy duty garbage bags
- Duct tape

Clean-Up Techniques

- Collect and dispose of any debris or chips on sheeting
 - HEPA vacuum sheeting Pick up protective sheeting
 - Mist sheeting before folding
 - Fold dirty side inward
 - Tape shut to seal in dirty side
- Dispose of protective sheeting at end of job
- Visually inspect beyond work area

Interior Clean-Up Techniques



- HEPA Vac work area from high to low
 - Start with walls, tops of doors, window troughs
 - HEPA Vac at least two feet beyond contained area
- Wet clean from high to low areas
 - It is recommended to use disposable wipes
 - Clean the floor last
- Check your work visually

Interior Checking Your Work

- Always conduct a visual inspection after cleaning
 - Look for paint chips, dust, debris, and deteriorated paint
 - Focus on child access areas such as floors, window troughs, window sills
 - Inspect beyond work area
 - Repeat clean-up steps if necessary
- Clearance (dust sampling)
 - Encouraged to check work
 - Sometimes required

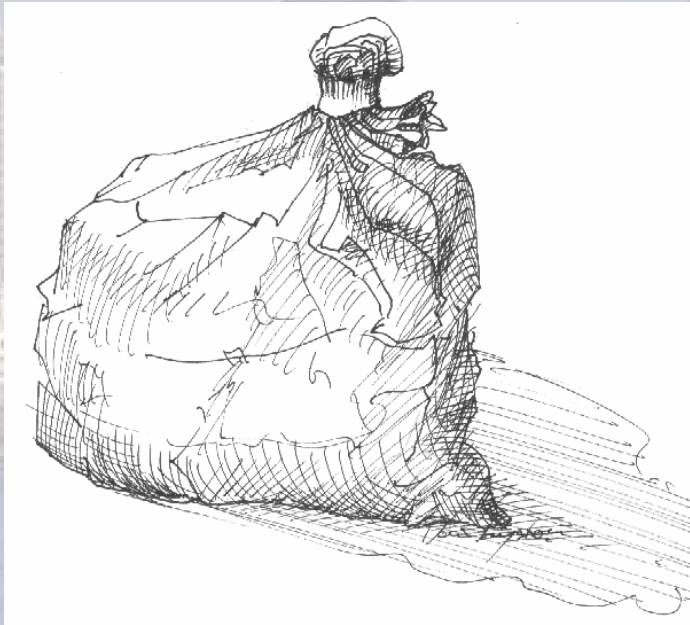
Exterior Checking your Work

- Visual inspection
 - Always conduct a visual inspection after any cleaning
 - Focus on child access areas such as
 - Bare soil or ground
 - Windows
 - Exterior porches
 - Play areas
 - Inspect beyond work area
- Collect and dispose all paint chips, dust, debris, and deteriorated paint

Lead-Impacted Soil Hazards

- For a permanent solution, cover the lead-impacted soil with concrete or pavement.
- For a temporary solution, cover with sod, wood chips, gravel, or thorny bushes – choose most appropriate method to create a barrier between you and the lead.

Disposal



- What should I do with my waste?
- At the work site
 - Place waste in heavy duty plastic bag
 - “Gooseneck Seal” the bag with duct tape
 - Carefully dispose of waste in accordance with State and Federal regulations
 - Store waste in a secure area

Disposal - Local and Federal Information

- Segregate hazardous and non-hazardous waste
- Minimize generation of hazardous waste
- Always check State regulations!

Disposal - Local Information

- Only components with intact paint can be disposed of at Miramar Landfill
- Home owners can dispose of up five gallons of lead paint chips at the City's permanent hazardous waste facility.
Call (858) 694-7000 for an appointment.

Lead Safe Clearance

- Call the City of San Diego Lead Safe Neighborhoods Program to see if you are qualified to schedule an inspector to give you a clearance on the property.
- If not qualified, you may need to hire a certified Lead Inspector/Assessor.

QUESTIONS?

