Children do not have to eat paint chips or chew on window sills to be lead poisoned. They can be poisoned from house dust that is contaminated with lead from normal wear and tear of paint on woodwork, especially windows. When two surfaces painted with lead-based paint rub together, the friction creates fine lead dust that settles on the floor and other hard surfaces in the home.

The dust that is everywhere in our homes can be contaminated with lead without our knowing it; lead dust is invisible. The particles of lead are so small that we cannot know that they are there unless we have a sample of it analyzed by a laboratory. Even though it is so small that it is invisible, lead dust is toxic. Actually, the smaller the pieces of dust are, the more dangerous they are because the smaller size makes the dust more easily absorbed into a child’s body.

When children play or crawl on the floor, they get the lead dust on their hands and clothing. The lead dust is also picked up by objects such as pacifiers, baby bottles, and toys that a child might put into his or her mouth after they have been on the floor. Children’s hands should be washed before eating and sleeping. Toys, pacifiers, teething rings, and nipples from baby bottles, should be washed regularly to protect children from the lead dust they might pick up.

Rugs are hot spots for lead dust. Small area rugs are much safer when they are washed regularly. Larger rugs and carpets that are not regularly cleaned collect and hold lead dust. The hazard from carpeting can be minimized by having it cleaned professionally or by vacuuming it with a vacuum cleaner with a HEPA filter. A regular vacuum cleaner draws lead dust out into the living environment and may create a more hazardous situation than not cleaning the rug at all.

To find out whether your home has hazardous levels of lead dust, you can conduct a simple test. Select spots that are likely to be contaminated: window sills and troughs, the floor areas under windows, and the floor near the most frequently used entrances. (To get a list of accredited laboratories which can instruct you on taking samples and analyze them for lead, contact the National Lead Information Clearinghouse, listed in the resources section of this manual.)
Dust from Occupations

Household members who work in environments with lead can bring lead dust into the home on their body, hair, and clothing and especially their shoes. People who do remodeling, furniture refinishing, paint removal, soldering, automobile repair or body work, or who work in a factory where lead is used are particularly at risk of lead contamination.

Such individuals should be careful to change their clothing, including shoes, and wash their hands well before entering the home. Lead-contaminated clothing should be washed separately from the rest of the family’s laundry. (Avoid putting the baby’s clothes in the machine in the load directly after the work clothes are washed, if possible.) Work shoes should be kept out of young children’s reach.

Lead dust brought into the family car can also be a threat to young children. Dust can accumulate on car seats, exposing young children to dangerous levels of lead.

OCCUPATIONS AND HOBBIES WITH A RISK OF LEAD EXPOSURE

Crafts/hobbies
- Ceramics glazing
- Fishing Weight making
- Ammunition making
- Stained glass making

Construction/repair work
- Bridge, tunnel, elevated highway work
- Cable stripping
- Electrical work
- Enameling
- Lead soldering
- Machining or grinding lead alloys
- Paint stripping
- Radiator repairing

- Residential lead removal
- Roofing, siding, sheet metal work
- Sanding of old paint
- Welding
- Wrecking and demolition work

Manufacturing/mining/smelting
- Ammunition and small arm
- Battery manufacturing
- Bottle cap manufacturing
- Brass, copper or lead foundries
- Cable covering manufacturing

- Ceramic walls, floors, tiles and glazing
- Chemical and chemical preparations
- Communications equipment
- Electronic component
- Fabricated rubber
- Fabricated metal products
- Glass products (pressed and blown, or from purchased glass)
- Insecticide manufacturing
- Industrial machinery and equipment
- Jewelry making
- Lead production or smelting
• Malleable iron foundries
• Metal fixtures and cans
• Measuring and controlling devices
• Motor vehicles, parts and accessories
• Non-ferrous rolling, drawing and refining
• Paint manufacturing
• Plastic manufacturing
• Plumbing fixture fitting and trim
• Portray products

• Printing
• Search and navigation equipment
• Tanning
• Transportation equipment
• Valve and pipe fittings
• Vitreous china food utensils

Other types of workers at risk
• Automobile Mechanics
• Auto body workers
• Dental technicians
• Scrap and waste handlers
• Firing range instructors and Janitors
• Police
House Cleaning

Lead dust in a home should be cleaned with wet rather than dry cleaning methods. When floors and other hard surfaces are washed and mopped, the lead dust is picked up and can be disposed of safely. Water and a household detergent or a special lead cleaning product should be used. It is best to use separate buckets for washing water and rinsing water, so that the lead that is picked up doesn’t get back onto the floor or other surfaces. Rags and mop heads used for cleaning lead dust should be washed separately from the family laundry.

Hard surfaces that collect dust and are accessible to young children should be washed often. The most important ones are floors and window troughs and sills, because they tend to collect highly contaminated dust.

Lead dust should not be swept, dusted or vacuumed with a normal vacuum cleaner. These methods tend to move lead dust back into the air and to distribute it around the house, where it settles and remains a threat to children’s health.
Hand Washing

Hand washing is an important way to protect children’s health. Teaching children to wash their hands after playing outdoors and before eating and sleeping is one of the best ways to keep lead-contaminated dust and soil from hurting them.

Of course, washing hands regularly is also one of the best means of protection against the spread of germs from one child to another over the course of a day. Hand washing is a good habit to teach our children.

Children should learn how to wash their hands so that they really get clean. They should first put them under the running warm water, then apply soap, rub them together, wash between the fingers and under the fingernails (using an old tooth brush works well) and, finally, rinse well. It takes about 20 seconds to do a good job.
Renovating or remodeling a home with lead paint can poison a child if it is not done in a safe way. Any time a lead-painted surface is disturbed, a potential hazard is created. Even a small repair can pose a hazard to a small child. Scraping a bit of peeling paint from a wall can release paint chips and dust into the home where a child can touch and ingest them. Removing a counter, a window, or even something as small as a thermostat from a wall with lead paint causes paint chips and dust to be dispersed on surrounding surfaces. Sanding an area smaller than one square foot can cover an entire room with highly toxic levels of lead dust. Heating lead paint can create toxic fumes, so heat guns should never be used without both proper training and a well-fitted respirator.

THESE SAME PRECAUTIONS SHOULD BE USED AS WHEN LEAD PAINT IS ABATED.

- Pregnant women, young children, and pets should be out of the house when the work is being done. (Pregnant women should not come back into the home to clean up, but should remain away until a thorough clean up is completed.)
- Anyone working with lead-painted surfaces, whether hired workers, tenants, or property owners, should be protected from lead dust by wearing well-fitted respirators with HEPA (high efficiency particulate air) filters and protective clothing. They should not eat, drink, smoke or chew gum or tobacco in the work area.
- The areas being worked on should be isolated from the rest of the living space by keeping people from walking in and out of the work area and by hanging plastic sheeting over the doorway to keep lead dust from escaping. Doors and windows should be shut and drop cloths should cover the floors. Personal possessions and furniture should be removed or covered.
- If any scraping or sanding is done, the surface should be wetted down first, so that as little lead dust as possible is created. Any time paint chips are loosened from a surface they should be carefully collected on plastic and disposed of safely before they could be spread around the home. Torches, power sanders or other methods that create a lot of dust or fumes should not be used.
- The entire home should be cleaned extremely well afterwards. Each work area should be cleaned as the work is done. Cleaning should be done by wet mopping with a special lead cleaner and vacuuming with a HEPA vacuum cleaner. A normal vacuum cleaner should not be used it will send fine lead dust back out into the air.
Soil around the outside of your house can become contaminated with lead from exterior lead-based paint. When paint flakes off the outside of an old building, or when it is scraped off to repaint the building, the paint chips fall onto the dirt and get ground into the soil over time. The soil ends up containing very small pieces of paint, often so small that they cannot be seen. Soil near old buildings of any kind is often contaminated in this way.

Soil can also be contaminated with lead that was emitted from automobiles during the years when cars used gasoline with lead in it. Whether leaded gasoline was phased out decades ago, as on the east coast, or in recent years, as in the Southwest, the lead remains in the soil to this day. This lead fell to the ground by the side of the road, where it settled into the soil. Soil near well-traveled roads can still be contaminated from that lead. Emissions from farming vehicles still contains lead, further contaminating the soil in agricultural areas.

Soil can be also become contaminated from pesticide spraying, sand blasting, or industrial emissions. Although lead arsenate is no longer used as a pesticide, it was very commonly sprayed in orchards for decades. So land that is now or was previously used for growing fruit trees could have soil that is contaminated with high levels of lead from lead arsenate. Soil near a bridge that has been sandblasted to remove old lead paint, or near a smelter or factory that emits lead into the air can also contain dangerous amounts of lead.

If there is lead in your soil, keep your children away from the soil right next to the house by planting shrubs near the house. Cover other areas of the yard with grass. Have children play in a sandbox with lead-free sand, rather than in lead-contaminated soil.

Children playing in dirt get it on their hands and under their fingernails. It is important that they learn to wash their hands after playing outdoors, if the soil might be contaminated with lead. (See section on Hand Washing.)

Lead can be brought into a child’s living environment on the shoes of people entering the home or daycare. You can reduce the hazard by either removing shoes upon entering the home or day care, or by keeping a mat by the entrance and wiping off the dirt before entering.

Pets bring soil into homes on paws and fur. Children come in contact with this lead directly by petting the animal, or indirectly, when it is transferred to furniture, carpets or other parts of the living environment.
LEAD IN THE GARDEN

Vegetables absorb lead from the soil. It is especially important to be careful about lead in the soil when you are growing root or leaf vegetables, such as potatoes, carrots, lettuce or spinach. Roots and leaves take up more lead than fruits, or vegetables that grow on vines, such as tomatoes or zucchini.

You can decrease the amount that is absorbed by vegetables you grow by planting them away from the road or from any building that was ever painted with lead-based paint. Also avoid planting on any land that was ever used as an orchard (it may still contain lead arsenate pesticide residues) or any location where demolition work might have been done (it might have left bits of paint in the soil).

You can find out how much lead is in your soil by having a sample analyzed by a laboratory. Be aware, however, that even if a few samples test negative, you may have lead in soil in other spots. (To get a list of accredited laboratories which can instruct you on taking samples and analyze them for lead, contact the National Lead Information Clearinghouse, listed in the resources section of this manual.)

- Use at least 25% organic compost by volume, the more decayed and the less fibrous the better.
- For plants that are not especially sensitive to pH, use lime to get your soil to a pH of 6.5 or 7. Lead is less soluble at these levels.
- Keep the soil moist and use mulch to minimize dust.
- Plant fruiting crops (including tomatoes, beans, squash, etc., plants where neither leaves nor roots are eaten) rather than leafy crops (lettuce, spinach, etc.) or root crops (beets, potatoes, etc.), which absorb more lead from the soil.
- If you do grow leafy crops, remove the outer leaves. These can contain as much as 5 times as much lead as inner leaves.
- If you do grow root crops, peel them before eating.
- Wash all produce thoroughly with water and a nontoxic liquid dish washing detergent that specifically states on the label that it is safe for washing food. (Look in a health food store.) Rinse well before eating.
DRINKING WATER

Lead can get into drinking water from household or municipal plumbing systems. The lead from water pipes, solder used to join pipes together, or brass pipes or fixtures (which may contain up to 8% lead) is picked up by the water as it goes through the pipes. Lead can also get into water from water fountains or old kettles or urns with lead lining or solder. (To see if a drinking fountain is safe, it can be checked against a list you can obtain from the EPA Safe Drinking Water Hotline, listed in the resource section of this manual.)

The more time that the water sits in pipes, the more lead it picks up. Water that has been sitting in pipes overnight or all day long will have more lead than water that is simply run through the system.

Certain types of water absorb more lead than others. The pH of water affects the amount of lead it absorbs. Soft water absorbs more lead than hard water, because hard water contains minerals which coat the pipes, covering up the lead. Hot water contains more lead than cold water. When water is boiled, the lead becomes more concentrated.

The only way to know for sure whether there is lead in your drinking water is to have the water tested. You can send a sample of water from your tap to a laboratory that will measure the lead in it. Your regional EPA office can recommend certified laboratories which can direct you in collecting samples and analyze them for lead content. (See the resource section of this manual for addresses and phone numbers of regional EPA offices.)

Without testing your water, you can get an idea of the likelihood of it being contaminated with lead by asking your water supplier if you are serviced by lead pipes. The pipes in older homes (built before 1920 or so) might be made of lead. Lead might also be present in your household plumbing in the form of solder if you live in a home built before 1986.

If your drinking water contains high levels of lead, there are several ways you can protect your family. Use cold water for drinking, cooking and preparing baby formulas. (When infant formula is made from hot water drawn from the
faucet first thing in the morning and boiled to make sure it is pure, it may contain very high amounts of lead.) Run the cold water for a couple of minutes, until you notice a change in the temperature, before using it for drinking.

You can get most of the lead out of your drinking water by using a drinking water filtering device that is labeled specifically as being effective (over 95%) in removing lead. Look for a blue circle with the letters NSF to know that the filter has been tested and approved by the National Sanitation Foundation as being effective in removing lead. Finally, if your water has a very high lead content, consider purchasing bottled water, at least to mix formula for an infant.