

# **Training Manual on Pediatric Environmental Health: Putting It Into Practice**



Children's Environmental Health Network  
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# **Environmental History-Taking**

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This module presents a series of questions that will enable students or residents to incorporate environmental and occupational history-taking into health supervision (“well child”) visits of infants, toddlers/preschoolers, school-aged children, and adolescents. The suggested questions can also be used to explore the source of persistent symptoms in sick children. The module reviews the environmental toxicants most commonly encountered by children and in some cases recommends steps parents can take to reduce their child’s exposure to these substances. The recommended learning methods are lecture and small groups/role playing. A set of draft home audit questionnaires to can be completed by the clinician or the parent are provided as samples in an addendum.

## **Learning Objectives**

After completion of this module, faculty will be able to teach students or residents to:

- Identify common environmental toxicants that may be present in a child’s environment
- Integrate environmental questions into well-child visits

## **General Principles of Environmental History Taking**

This section addresses how pediatric care providers may incorporate environmental history-taking into practice during health supervision visits.

### **Health Supervision Visits**

Health supervision visits are opportunities to:

- Inquire about environmental issues
- Provide anticipatory guidance to prevent or abate exposures
- Shed light on exposures that may relate to persistent symptoms
- Empower parents to seek answers to their environmental concerns from their health care provider and from local and national resources and organizations

### **Areas of Inquiry**

Any environmental history will need to be tailored to the local environment of the practicing clinician or faculty member. The health care provider should discuss the following four areas of environmental health during comprehensive and interval visits:

- Daily environment (including the home, day-care setting, etc.)
- Occupational exposures (of the parents and children/teenagers, if pertinent)
- Lead exposures
- Child's diet

The suggested questions within each of these areas are basic, brief, and easily incorporated into the standard medical history. Information is also provided to serve as a basis for formulating further questions. As with other aspects of history-taking, each question should consider the patient's developmental stage. Certain questions should be tailored to specific community problems.

### Daily Environment

The daily environment is any area in which the child spends significant, regular amounts of time. It may encompass the:

- Home
- Day-care setting
- School
- Areas where the child engages in a hobby

Health care providers should question the parent about the following features of the daily environment:

*What type of dwelling (apartment, private home, or mobile home) does the child live in?*

Children living in private homes or apartments may be exposed to friable asbestos, radon, or formaldehyde.

#### Friable Asbestos

Children who live in basements or on lower floors may be exposed to asbestos (AAP, 1987). The main household uses of asbestos are as an insulator, an additive to plaster compounds, and an ingredient of vinyl products. Asbestos becomes a health hazard if it deteriorates and asbestos fibers are released into the air. Asbestos does not have immediate health effects, but exposure increases the risk of lung cancer (i.e. mesothelioma) many years later.

Parents may need advice about how to test for asbestos and what to do to prevent exposure to friable asbestos. The Network's Resource Guide on Children's Environmental Health publication and web site edition ([www.cehn.org](http://www.cehn.org)) can link you to resources for further information on asbestos, including educational materials and testing information.

#### Radon

Radon is also of particular concern if the family lives or spends significant time in lower floors or basements, where this colorless, odorless gas tends to concentrate (AAP, 1989). Radon is a natural by-product of uranium decay. Radon itself is harmless, but its progeny attach to particulates in the air and are taken into the lung, exposing the bronchial stem cells to radiation.. Radon has no immediate health effects but is associated with an increased risk of lung cancer after a la-

tency period of many years. Exposed individuals who smoke may increase their risk of developing lung disease.

Radon is more prevalent in certain geographic regions, so health care providers should consult their local health department to determine whether radon is considered to be a significant risk in their area of practice. Parents may need advice about how to test for radon and what to do to minimize exposure. The Network's Resource Guide on Children's Environmental Health publication and web site edition ([www.cehn.org](http://www.cehn.org)) can link you to resources for further information on radon, including educational materials and testing information.

### **Formaldehyde**

Children inhabiting mobile homes may be exposed to formaldehyde. Formaldehyde may volatilize from construction materials, such as particle board and pressed wood products, which are used heavily in mobile home construction (Ritchie, 1987). Symptoms of formaldehyde exposure include respiratory and skin irritation, headache, nausea, and vomiting.

#### *What is the age and condition of the building?*

Dwellings built before 1960 are more likely to have leaded paint in poor condition, which can flake or create dust which is then ingested by young children. Lead paint is the major source of high-dose lead exposure for American children, and its use in household paints was banned in 1978.

#### *Is the dwelling newly constructed or undergoing renovation?*

Both newly built and remodeled homes can be a source of toxic exposures. Materials used in modern construction, such as formaldehyde in carpet adhesive and pressed wood products, can cause health problems. Toxicants used in the old home (e.g. lead, asbestos) can be released during renovation.

#### *Are there smokers in the household?*

Children exposed to environmental tobacco smoke (ETS) are at risk for significant morbidity and mortality, such as increased incidence of sudden infant death syndrome (SIDS), asthma and other respiratory conditions, and the development of lung cancer as adults (Taylor, 1995; Janerich, 1990). ETS exposure exacerbates symptoms in children with recurrent respiratory infections, reactive airway disease, and middle ear disease (EPA, 1992; AAP, 1994). In addition, parents who smoke are more likely to have children who smoke.

#### *What is the heating source for the home?*

Exposure to wood smoke from a wood stove or fireplace may precipitate or worsen respiratory symptoms (Honicky, 1985). Respiratory irritants such as nitrogen dioxide (NO<sub>2</sub>), respirable particulates, and polycyclic aromatic hydrocarbons can be emitted in high concentrations from fireplaces and wood stoves that are not regularly cleaned or are improperly vented. Another combustion by-product, carbon monoxide (CO), can cause fatigue at low concentrations and headaches, dizziness,

weakness, confusion, nausea, or even death at higher concentrations. NO<sub>2</sub> exposure can also result from combustion of natural gas, and may be a problem when gas stoves are used either for supplemental heat or to boil water continuously to humidify a room. (Sterling, 1979)

*Are any pesticides used in the home/yard?*

Exposure to pesticides used indoors or in lawn-care products may have an acute or chronic effect if the child comes in contact with a freshly sprayed surface. An infant's breathing zone is close to the ground, where pesticide concentrations are highest; exposure may also occur through dermal absorption. The most frequent exposures are to carbonate and organophosphate insecticides.

*Does your child engage in any hobbies that may expose him/her to toxic chemicals?*

Children and teenagers may be exposed to toxic chemicals during arts and crafts activities and other hobbies. Lead can be encountered in artists' paint, stained glass making, furniture refinishing, and shooting at indoor firing ranges (Babin, 1988). Model-building can expose the child to toluene and other dangerous organic solvents. Children at special risk include: those who are visually impaired and thus likely to work close to a project, physically handicapped children who may inadvertently contaminate themselves, and asthmatics.

*Are there any environmental factors in the larger community that may affect the child's health?*

Health care providers should assess the local community in which their patients reside. It is important to consider whether the home, school, or day-care center is near any site of potential toxic exposure—polluted lakes or streams, industrial plants, freeways, commercial businesses, or dump sites. Health care providers should be aware of recent incidents of toxic emissions in the area. Poor air quality should also be considered as an etiological factor in children with respiratory problems.

## Occupational Exposures

### Parental Occupation

Information about the parents' workplace environment should be obtained during the course of a standard family health history.

#### ■ Take-home Exposures

"Take-home" exposures may result from parental occupational exposures to toxicants which are brought home on clothes, shoes, skin surfaces, and in cars (Chisolm, 1978). Take-home exposures described in the medical literature include: lead poisoning in children of lead storage battery workers (Watson, 1978); elevated mercury levels in children whose parents worked in a mercury thermometer plant (Hudson, 1987); and asbestos-related diseases in families of shipyard workers (Rilburn, 1985).

#### ■ At-home Occupations

At-home work and hobbies may also endanger children. Parents who work at home with certain arts and crafts materials can expose children to toxicants such as lead, which is used in solder in stained glass making and in pottery glazes.

## Child and Adolescent Employment

An estimated 4 million children are legally employed in the United States, and illegal employment of children is increasingly common (AAP, 1995). Children may be employed in fields or sweatshops, often under dangerous conditions. Employment may help a teenager to develop a sense of responsibility, learn new skills, and earn money, but it also may interfere with school, sleep, and socializing. Working children and teens risk exposure to toxins and physical injury. Recent reports have documented that each year, working children and adolescents account for more than 30,000 injuries, 20,000 compensation claims, thousands of cases of permanent disability, and more than 100 deaths. Those illegally employed have a much greater likelihood of injury (AAP, 1995).

Federal and state child labor laws regulate minimum ages for general and specific types of employment, the maximum daily and weekly hours of work permitted, and the types of work permitted. Work permits ("working papers") are issued to children by state and local school systems. Health care providers are often asked to provide medical clearance for these permits, which gives the provider an opportunity to inquire about the extent and nature of the child's work. If it is hazardous or illegal, it should be discussed with the patient and parent. The clinician can withhold medical clearance for the work permit, if necessary.

Health care providers who treat an injured or toxically-exposed child or adolescent should take a brief occupational history. If an occupational cause is established or suspected, the provider can notify state labor and health agencies.

## Lead

*The following passages are based on the Childhood Lead Toxicity in this manual, by Morri Markowitz, MD.*

Until 1997, the Centers for Disease Control and Prevention (CDC) recommended universal screening of all preschool children. Given the fall in prevalence of lead poisoning, the CDC revised its guidelines: the universal screening policy has been replaced by a policy of local risk assessment of exposure to lead. State and local health departments are now responsible for determining the level of risk of exposure and for issuing policy guidelines for providers. In the absence of formal local guidance, "universal screening should be carried out" (CDC, 1997).

This means that *all* children should be screened by blood lead measurement at 12 and 24 months of age, and at 36-72 months of age if not previously screened. Targeted screening may suffice when local risk has been officially defined and found to be low.

Minimum Personal Risk Questionnaires (see below) may be used as a first-pass screening method, followed by blood lead testing if the answers indicate high risk. Overall, the sensitivity of questionnaires designed to identify lead-poisoned children is about 60-70%. Sensitivity can be improved when local conditions are considered and locally appropriate questions are added.

### Minimum Personal Risk Questionnaire (CDC, 1997)

1. Does the child reside in or regularly visit a house that was built before 1950? (Include settings such as daycare, and a babysitter, or relative's home)

2. Does the child reside in or regularly visit a house built before 1978 undergoing recent (past 6 months) or current renovation?
3. Does the child have a sibling or playmate who has been diagnosed with lead poisoning?

Alternatively, selection for blood lead testing may be based on residence in a geographic area known to have large amounts of lead or on membership in a high-risk group, such as indigent children.

A blood lead level  $>10$   $\mu\text{g/dL}$  is considered elevated (CDC, 1991).

## Diet

The child's diet may place him/her at risk for exposure to environmental toxicants. Areas of particular concern are pesticides, PCBs and PBBs, and lead. Environmental history taking questions should pertain to:

### **Pesticides and other compounds in breast milk**

Maternal medications and nicotine metabolites may be transferred from mother to infant via breast milk. In addition, lipid-soluble chemicals such as pesticides, polychlorinated biphenyls (PCBs), and polybrominated biphenyls (PBBs) may contaminate breast milk (Schwartz, 1983). Health care providers should be aware of any state or county health advisories warning against ingestion of fish contaminated by polluted lakes or streams. Clinicians should continue to advise breast feeding unless mothers have ingested contaminated fish (AAP, 1978).

### **Lead in water used for formula preparation**

Lead in water is of particular concern for formula-fed infants and toddlers. Parents should consider testing their water supply for lead if the baby's formula is made with tap water. If this is not feasible, water standing in pipes overnight should be run for two minutes, or until cold, before use. (Flushing may not be effective in high-rise buildings with large diameter pipes.)

Hot tap water and water from "instant" hot taps and refrigerator taps should not be used in making formula because of the possibility of contamination with lead. It is recommended to prepare formula with water that has been sterilized: boil the water for one minute after the water reaches a full (rolling) boil.

### **Pesticide residues in fruits and vegetables**

Recently, the National Academy of Sciences (NAS) raised concern about pesticide residues in foodstuffs (NRC, 1993). There are many unknowns about the long-term effects of exposure to pesticides, and children may be more vulnerable than adults. Toddlers' diets typically contain large amounts per body weight of fresh fruits and vegetables, potentially exposing them to chemicals with possible carcinogenic, neurotoxic, endocrinologic, and immunotoxic effects. The degree of implementation of regulatory approaches to control pesticide residues is not currently considered adequate to protect infants and children.

Parents should encourage children to eat a variety of fruits and vegetables, since their established health benefits outweigh the risk of consumption of pesticide residues. Parents can reduce pesticide consumption by buying organic produce. Buying in-season produce may avoid exposure to imported and heavily sprayed items. Parents should wash produce with water only, as soap leaves a residue. Washing will remove one-half to three-quarters of the residues left on the skin of the fruit. Peeling removes residues left on the skin but does not affect exposure to pesticide absorbed systematically within the fruit. Since peeling eliminates much of the vitamins and fiber, it is recommended only for fruits and vegetables that are normally peeled before eating, such as bananas and oranges.

## **The Home Audit**

If the areas of concern mentioned above merit further exploration, the health care provider can ask the parent to complete the home audit included at the end of this module.

## **Accessing Resources**

Although the field of pediatric environmental health is in its infancy, information resources and referral networks are available; further information can be found in the *Resource Guide on Children's Environmental Health*, available in print and on the Network's web site <http://www.cehn.org>. Health care providers should also make use of resources in their community, such as local and state health departments and regional poison control centers.

## **Learning Methods: Ten Tips for Teaching Environmental History Taking**

In May 1996, the Children's Environmental Health Network conducted a "Train-the-Trainers" session for pediatric residency faculty at the Ambulatory Pediatric Association's annual meeting. Participants in the training session suggested the following ten tips for teaching environmental history-taking to students and residents.

1. Teach By Example

Have students and residents observe faculty taking an environmental history. Observation is a key to learning. Strengthen faculty knowledge in environmental history taking in order to improve the caliber of the modeling for residents and students. Faculty can also ask environmental questions on rounds and serve as a role model.

2. Checklist/In-take Sheet

Utilize a check list of environmental history questions. Add environmental questions to all standard forms completed by the resident. A check list can also be

used by a preceptor to evaluate and give feedback to the resident or student on their history taking skills.

### 3. Case Studies

Case studies are an ideal way to teach environmental history taking. Give trainees simulated or mystery cases to solve. Integrate case studies into Grand Rounds and noon conferences as part of a lecture. Case studies can also be the basis for case discussions that will help to incorporate environmental history taking into differential diagnosis. Flow charts can be created to illustrate how environmental factors may influence clinical conditions.

### 4. Role Plays

Develop opportunities for residents and students to role play environmental history taking using hands-on experiences. The role play can be designed in several ways. You might ask trainees to take an actual history of a colleague. Give a pair of residents or students a scenario in which one plays a parent and one plays a health care provider. Scripted environmental problems and pediatric conditions can be discussed by residents and students in the role play. Ask trainees to use an environmental history taking questionnaire when solving the scripted environmental problem.

### 5. Patient Participation

Involve patients in history taking, as exemplified by the checklist. Patients should be asked about community conditions and the specific conditions where the child lives. As a supplement, hand-outs and videos shown in the waiting area are good educational tools for patients.

Determine a "counseling topic of the week" that all residents and students ask their families that week. Information sheets can be available for both house staff and families.

As necessary, residents and students can work with patients to assess the home environment through the use of a home audit checklist.

### 6. Community Participation

Successful environmental history taking is based on an accurate understanding of the community in which residents and students practice. Take field trips to learn about the local hazards, including organizing plant tours and visits with local communities. Be in contact with local community leaders and be aware of environmental health concerns in the area of your residency program. If possible, find a week to involve community sites in the training program (e.g. poison control centers, clinics belonging to the Association of Occupational and Environmental Clinics). Involve community leaders as resource people for a Grand Rounds on local conditions.

### 7. Self-Directed Teaching

Develop self-directed teaching tools (e.g. CD-ROM). Video tapes and computerized simulations are options for self-directed learning and self-assessment.

## 8. Evaluation

Residents and students can be evaluated in a variety of ways to determine changes in their history taking behavior. Chart audits can specifically look for the inclusion of environmental history questions in history taking with patients. Skills can also be evaluated through objective oriented testing, direct observation, or through use of mock scenarios.

## 9. Training Sites That Can Include Environmental History Taking

Be creative about sites for including environmental history taking. A sampling of prime spots might include:

- Grand Rounds
- Noon Conferences
- Well Child Clinic
- Continuity Clinic
- PED/ER Clinic
- Prenatal clinics
- Inpatient Settings
- Adolescent Clinic
- School-based clinics
- Subspecialty Clinics
- Journal Clubs

## 10. Things to Remember When Using an Environmental History Checklist

- Tailor questions to local concerns (e.g. urban vs. rural differences). To build awareness of local concerns, develop a “What’s in the community” mapping exercise for your residents and/or students.
- Use prompts when asking questions of parents.
- Consider giving parents a questionnaire prior to clinical visit.

## **Questions for Further Discussion with Residents and Students**

- What are the most common environmental problems in your geographic vicinity?
- How much time should you spend taking an environmental health history during a well-child visit?
- Should all patients fill out environmental health history forms? Home audits?
- What will you do with the information that you receive during the history-taking, i.e., where will you refer patients who require environmental and occupational health follow-up?
- What resources do you have at your disposal to assist you in counseling patients on issues related to environmental health?

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## Acknowledgments

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## Summary of Questions for an Environmental History\*

Issue	What to Ask
The child's home, school, or day-care center may expose him/her to potential toxicants	<p>Do you live in an apartment, house, or mobile home?</p> <p>On what level of your dwelling is the child's room located?</p> <p>What is the age and condition of your home?</p> <p>How is your home heated?</p> <p>Do you have a fireplace or a wood stove?</p> <p>Do you use pesticides inside or outside your home?</p> <p>What hobbies do your child and other family members have?</p> <p>Is your home (day-care center, etc.) near a polluted body of water, industrial plant, commercial business, or dump site?</p>
Family members' jobs may involve exposure to contaminants	<p>What is your occupation?</p> <p>What is your spouse's occupation?</p> <p>Do other members of the family have jobs?</p> <p>    If so, what are they?</p> <p>For teenagers:</p> <p>    Do you work?</p> <p>    What kind of job do you have and what hours do you work?</p>
The child may be exposed to tobacco smoke	<p>Do you smoke tobacco products?</p> <p>    If so, do you smoke in your home?</p> <p>Does your spouse, other family member, or baby-sitter smoke?</p> <p>If you take your child to a baby-sitter, does he or she smoke at home?</p> <p>Do visitors smoke in your home?</p> <p>Does anyone smoke in your car?</p>
The child may eat food contaminated with environmental toxicants	<p>For breast feeding mothers:</p> <p>    Have you tested your water supply for lead?</p> <p>    If not and you make the baby's formula with tap water, what procedure do you follow?</p> <p>    Do you ever use hot tap water or water from instant hot taps or refrigerator taps to make the formula?</p> <p>Do you wash fruits and vegetables before giving them to your child?</p> <p>    What do you wash them with?</p> <p>What kind of produce do you usually buy? Organic? Local? In season?</p> <p>Does the child live with an adult whose job or hobby involves exposure to lead?</p>

\* American Academy of Pediatrics – Committee on Environmental Health. Lead poisoning: from screening to primary prevention. *Pediatrics* 92:176 (1993)

Issue	What to Ask
The child may be at high risk for lead poisoning	<p data-bbox="602 317 1354 422">Is there a brother, sister, housemate, or playmate being followed or treated for lead poisoning (blood lead <math>\geq 15</math> mg/dL)?</p> <p data-bbox="602 432 1360 537">Does the child live with an adult whose job or hobby involves exposure to lead?</p> <p data-bbox="602 548 1338 653">Does the child live near an active lead smelter, battery recycling plant, or other industry likely to release lead?</p> <p data-bbox="602 663 1425 695">Do you use home remedies or pottery from another country?</p>

## When to Introduce Environmental Questions

<b>Topic</b>	<b>The Right Time</b>
Home renovation, smoking, breast and bottle issues	Prenatal period
Environmental tobacco smoke	When child is 2 months old
Poison exposures, including household pesticides and lead poisoning	When child is 6 months old
Arts and crafts exposures	Preschool period
Occupational exposures, exposures from hobbies	When patient is a teenager
Lawn and garden products, lawn services, scheduled chemical applications	Spring and summer
Wood stoves and fireplaces, gas stoves	Fall and winter

# Protecting Your Child from Environmental Hazards: A Guide for Parents

Magazines and newspapers often feature articles about newly recognized health dangers in our homes, schools, air, water, and food. While many of these supposed threats to our health are not documented or their dangers are exaggerated, some aspects of our environment have been shown to worsen or cause disorders that can affect your child. By being knowledgeable about these environmental hazards, you can take sensible precautions. Here are some potential hazards you should try to avoid.

## At Home, School, or Day-care Center

Children can be exposed to a variety of pollutants, including lead, formaldehyde, and nitrogen dioxide, as they go about their daily routines. Do any of the following descriptions apply to your home, the child's school, or any place he or she spends a lot of time?

- Near a polluted lake or stream, industrial plant, or commercial business or dump site
- Built before 1960
- Fireplace or wood stove used frequently
- Undergoing renovation
- Treated with pesticides (either inside or on the lawn)
- Living areas located in the basement

If you answered **yes** to any of these questions, tell your child's health care provider, who may ask you for additional information or have some suggestions. The clinician may recommend, for example, that you, 1) reconsider applying pesticides to the lawn if your child uses the area as a playground, and 2) avoid using insecticides that contain carbamate or organophosphate inside your home. You also should be aware that building renovations can expose a pregnant woman, her fetus, or an infant to lead dust or asbestos. If your child spends a lot of time in a room in the basement, and you live in an area with a risk of radon, the health care practitioner may suggest having your home tested for radon.

Keep in mind that people who engage in arts and crafts activities can expose themselves and others in the room to lead and toxic chemicals. Some paints, the solder used in working with stained glass, and some pottery glazes contain lead. You and

your older children should read product labels, which provide some safety information. Be especially alert if your child has a disability. The visually impaired child, for example, is more likely to work close to a project and breathe toxic fumes. Likewise, physically handicapped children may be unable to follow safety precautions. Asthmatics may be affected by vapors. Emotionally disturbed children may abuse art materials. Adults who work with potentially toxic materials should keep children out of the room while they engage in their hobby. Individuals who work with arts and crafts materials that contain toxic chemicals should ensure that they have adequate ventilation.

## **Job-related Contaminants**

If you or your spouse works at a lead smelter, battery recycling plant, shipyard, construction site, or other facility likely to have workplace contaminants, you could be bringing toxicants home on your skin, clothes and shoes. Talk to your doctor about how you can protect your child from exposure.

If your adolescent has a job, verify that it does not carry the risk of toxic exposure to metals, dusts, chemicals, or fumes. Of course, you also want your child to avoid working with dangerous equipment or doing work that could otherwise result in an injury.

## **Tobacco Smoke**

If you or any members of your household smoke, do so outside only and seriously consider quitting, for the sake of your child's health as well as your own. Air exchanges spread smoke rapidly throughout a home, and children exposed to passive smoke are at an increased risk of sudden infant death syndrome and for developing lung cancer as adults. Tobacco smoke exposure also worsens symptoms in children with recurrent ear and respiratory infections or reactive airway disease (asthma).

Ideally, your baby-sitter will not smoke and certainly should be instructed not to do so in your house. Let visitors to your home know that you do not want them to smoke by removing all the ashtrays. Do not permit smoking in your car. Strongly discourage your school-aged child or teenager from smoking.

## **Diet**

92 If you are breast feeding your infant, do not smoke or take any drugs without your doctor's approval, since drugs, medications, and nicotine metabolites may be transferred to breast milk. Be aware of any state or county advisories that warn of chemical contamination of lakes or streams. Do not eat any fish taken from contaminated waters.

If your baby is formula-fed, consider testing the water supply for lead. Alternatively, when you use water that has stood in the pipes overnight, run it for two minutes or until cold. Do not use hot tap water or water from "instant" hot taps and refrigerator taps for formula; water from these sources can be contaminated with lead from pipes.

For the same reason, do not use water that has been allowed to boil for a long time. Keeping water at a full (roiling) boil for one minute is adequate.

Children may be especially vulnerable to the effects of pesticide residues, so be careful to wash all fruits and vegetables they eat. Only use water; soap leaves a residue. It is also a good idea to only purchase in-season produce, which is less likely to be heavily sprayed. Purchasing organic produce is another option. Whatever precautions you take, do not cut back on the amount of these healthful foods you offer your children.

## **Lead**

Of all disorders caused by environmental toxins, lead poisoning is the best known and most feared. Yet it is easy to determine if your child might be at risk for developing lead poisoning, and it is relatively straightforward to remove any hazards. The following questions are designed to identify if your child is at risk for lead poisoning. If you answer **yes** to any of the following questions, talk to your child's health care provider about lead poisoning.

- Does your child live in or visit a house built before 1960 and has peeling or chipping paint?
- Does your child live in or regularly visit a house built before 1960 that is subject to a recent, on-going, or planned renovation or remodeling?
- Does your child have a brother, sister, housemate, or playmate who is being followed or treated for lead poisoning?
- Does your child live with an adult whose job or hobby involves exposure to lead?
- Do you prepare your baby's formula with tap water?
- Does your child live near an active lead smelter, battery recycling plant, or other industry likely to release lead?
- Do you use home remedies or pottery from another country?

## **A Common Sense Perspective**

These suggestions are not intended to make you overly anxious about environmental hazards, which cannot be avoided entirely. As in all areas of parenting, common sense is the best guide to ensuring that the environment causes your child no harm.

