

SPECIAL HEALTH SECTION: Read Before Your Child's Next Checkup



THE ESSENTIAL GUIDE
FOR TODAY'S PARENTS

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**6 Questions Children
Are Most Afraid to Ask**



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**Protecting Your
Baby From**

Environmental Hazards



**Pesticides,
pollution,
lead, and
tobacco smoke
can have
devastating
effects on the
health of your
baby. Here's how
to keep your
home toxin-free.**

Daily, it seems, we hear alarming reports of air and water pollution, toxic waste sites, and newly uncovered carcinogens that threaten the well-being of all of us but especially our babies, who are most vulnerable to damage from toxins. We hear suspicions that fruits and vegetables are laced with cancer-causing pesticide residues or that the soil or drinking water in our homes contain dangerous amounts of lead.

Most public health experts say your baby is much more likely to be harmed by childhood infections, automobile accidents, or accidents in the home than by chemi- ▶

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Environmental Hazards

icals and substances in the environment.

However, because exposure to environmental agents early in life may contribute to cancer, chronic illness, and intellectual deficits, it is crucial to identify these potential threats to your baby. While certain pollutants, like air pollution, may be part of the fabric of modern life, most hazards are within parents' control. Protecting your baby often means taking basic actions, like not smoking around your baby or ensuring proper amounts of iron and calcium in your older baby's diet to stave off the effects of any lead exposure. It may also mean taking more specific actions, such as having your water tested or knowing how to identify that your baby may have been exposed to a harmful substance.

Tobacco Smoke

Cigarette smoke is a major contributor to indoor pollution and seriously threatens the health of babies. Data from the U.S. National Health Interview Survey suggests that children of smoking mothers spend about 20 percent more time sick in bed than other kids.

Effects of Exposure According to the Committee on Environmental Hazards of the American Academy of Pediatrics based in Chicago, exposure to second-hand smoke (or passive inhalation), which contains high concentrations of tar, nicotine, ammonia, carbon monoxide, and cancer-causing substances, may contribute to these illnesses:

- Respiratory ailments, such as colds, asthma, and pneumonia. Babies who live with smokers are nearly twice as likely as those who live in smoke-free households to develop these conditions.
- Chronic ear infections.
- Cancers of the lung, mouth, and larynx.
- Coronary heart disease.
- Kidney disease.

What You Can Do *Refrain from smoking in the house, and never smoke in the car. Consider the effect of the example you are setting as a smoker.* Although your baby won't be picking up a cigarette any time

soon, impressions are set early. Studies show that an alarming number of smokers—more than 52 percent—take up the habit as children, before age 18. And many are children of smokers.

Insist that other people not smoke around your child, especially in your home.

Lead

Public health officials have concluded that lead is the number-one environmental threat to babies and children in all economic strata.

Lead, even in small doses, can slow mental development and cause learning disabilities and behavioral problems. Since babies absorb a significantly higher percentage of lead they are exposed to than adults do, they are at greater risk.

Paint is the main source of lead exposure, despite the ban, in 1977, of lead-based paint. Some 24 million homes are still contaminated with pre-1977 paint. Lead is also found in water, dust, and soil.

Effects of Exposure According to the Department of Health and Human Services in Bethesda, Maryland, an esti-

to compensate for the effects of this prenatal lead poisoning but only if they do not continue to be exposed to lead and live in an environment that fosters learning. Babies who continue to be exposed to lead after birth perform poorly on tests that measure cognitive function throughout the first five years of life.

■ Behavior disorders. Lead exposure in the womb and during the first few years of life has been associated with hyperactivity and possibly attention deficit disorder, in which a child is easily distracted and unable to control her impulses. (However, in most cases involving attention deficit disorder and hyperactivity, the causes cannot be traced.)

What You Can Do *If renovating an older house, do it properly.* If not done professionally or with great caution, renovating a pre-1977 house can greatly increase the danger of lead poisoning.

Test drinking water. If your drinking water is contaminated by lead pipes, solder, or brass fittings, it can pose a special risk to your baby. If you use reconstituted formula, for instance, his diet would

WHY YOUR BABY IS VULNERABLE TO TOXINS

Here's why your baby is far more sensitive than an adult to toxins:

1. Her low body weight means that a small amount of a potentially harmful substance can have a greater toxic effect on her.
2. Because she is undergoing rapid growth and development, chemicals that accumulate in the body during this early period may be incorporated into body tissues in great amounts. And any damage to your baby's genetic material—the DNA in her cells—will also be carried into her future development.
3. Organs that detoxify substances, such as the intestines, liver, and kidneys, are not fully operative. Chemicals might not be eliminated or rendered harmless and may remain in her for a long time.
4. Her nervous system, including the cells that comprise the brain, is extremely vulnerable since it continues to develop after birth.

mated 15 percent of babies and children are exposed to lead levels high enough to impact learning ability. Here are the problems that lead may cause:

■ Cognitive disabilities. Babies exposed to low levels of lead while in the womb have been found to have impaired intelligence, attention span, and auditory and language functions. Babies may be able

largely consist of this tainted water.

Levels of lead in drinking-water should not exceed 15 parts per billion. The Clean Water Fund (704-251-0518) and Suburban Water Testing (800-433-6595) are mail-order labs that will supply home-testing kits. If the water contains too much lead, try to find out why. Check to see if the water is coming through lead-soldered ►

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pipes. You may be able to reduce the risk of exposure by running cold water for a few minutes before collecting it for drinking or cooking. And never try to boil tap water in hopes of eliminating the lead. Boiling it only increases the lead concentration.

Another option to consider for your family is a water-treatment device. Distillers and reverse-osmosis systems were recently rated by *Consumer Reports* as nearly 99 percent effective in removing lead from tap water.

Minimize lead levels in soil. If you live by a heavily traveled highway, the soil around your house or apartment may be contaminated. Although leaded gasoline has been phased out, many truck fuels continue to add lead, and soil in cities and areas near highways may still be contaminated by the large quantities of lead that settled to the ground in the past. Cover lead-contaminated soil with clean soil that has been seeded or sodded.

Avoid imported or large-size canned foods and juices. Lead-soldered seams on the cans can leach lead into the food.

Be sure that your baby's diet contains adequate amounts of calcium, iron, and protein. These nutrients have been shown to diminish the effects of lead exposure. Once your baby starts to eat solids, be sure that her diet is rich in milk, breads, and green leafy vegetables.

Test your child for lead poisoning if you suspect that lead is a problem in your area. According to the Centers for Disease Control and Prevention in Atlanta, unless your family lives in an area where widespread screening has revealed no problem, your baby should be tested at 12 months and again at 24 months. Even if your child does not have overt symptoms, testing might be in order because many of lead's effects are subtle. Early symptoms include lethargy, fatigue, irritability, headaches, and sometimes abdominal pain. Behavioral changes, weakness, clumsiness, and a general feeling of sickness can also signal lead poisoning. Frequently, however, there are no overt symptoms that will tell a parent that a child has lead poisoning.

Current screening for lead involves a blood test, although a new, noninvasive procedure using X-ray fluorescence is now under study and looks promising. This test will help to determine the levels of lead that have accumulated in the bones, where lead is stored.

If your baby shows elevated levels of lead in her blood, immediate measures should be taken. Your baby must be removed from the source of exposure. Chelation therapy may be considered if the blood test reveals acute lead poisoning. This is a very serious medical procedure, however, and must be properly monitored to avoid kidney damage.

Air Pollution

Pollutants are found both in the outdoor and indoor air. Outdoor air pollutants, including sulfur dioxide and nitrogen dioxide, are largely produced by vehicle, factory, and power plant emissions. Ozone, another hazard, is formed by the interaction of sunlight with pollutants from cars and factories.

Indoor air pollutants can especially affect a baby since she spends so much time in the house. The most dangerous sources include: secondhand tobacco smoke; radon, a naturally occurring gas found in many homes; asbestos, an insulating material commonly used in houses built before the mid-Seventies; and formaldehyde, a chemical found in materials, like plywood and paneling, used in furniture, subflooring, and kitchen cabinets.

Other indoor air pollutants: smoke from wood stoves, which contains small particles containing soot and chemical fumes, and gas-fired and kerosene space heaters, which release nitrogen dioxide.

Effects of Exposure Air pollution is invisible but insidious because the effects often take a long time to develop.

■ Chronic respiratory ailments, such as a dry cough and asthma, as well as an increased susceptibility to the flu, bronchitis, and pneumonia. The culprits: outdoor pollutants, such as ozone, nitrogen dioxide, and sulfur dioxide; and indoor pollutants, such as secondhand tobacco smoke, formaldehyde, wood stoves, and gas-fired and kerosene space heaters.

■ Cancer, especially of the lungs. The major culprits: asbestos, radon, and tobacco smoke. (Continued on page 118)

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What You Can Do *Improve ventilation.*

Open the windows, except during ozone-heavy smog alerts, and install exhaust fans or air-to-air heat-exchanging devices that draw fresh air in through one duct and expel it through another.

Forbid tobacco smoking in your home.

Don't use a wood stove to heat your home or a gas-fired or kerosene space heater in your child's room.

Check your home for radon. For information about detectors and radon reduction, contact your Environmental Protection Agency (EPA) regional office or call the hot line at 800-SOS-RADON.

If you suspect that there is asbestos in your house, consult your regional EPA office about hiring a specialist who can assess the need for removal as well as perform this very dangerous work.

Be cautious when purchasing home furnishings. Select fabrics that do not have a high pile, which concentrates pollutants and avoid purchasing furnishings made of plywood, particle board, and paneling since they release formaldehyde gas.

Take your baby for walks in the morning. There is less car exhaust and the sun is weaker then, reducing ozone exposure.

Pesticides

Pesticides are highly toxic chemicals used to control weeds (herbicides), fungi (fungicides), and insects and rodents (insecticides, rodenticides, and fumigants, or "bug bombs"). Babies are especially vulnerable to exposure.

Effects of Exposure A baby can be exposed to pesticides by eating or inhaling any that are stored in containers and left within his reach; playing on grass that has just been sprayed with pesticides; eating insecticide pellets left on surfaces or by simply touching treated surfaces and then putting his contaminated fingers in his mouth; inhaling fumigants sprayed in a room; or by eating food that is tainted with harmful levels of pesticide residues. Here are some of the illnesses that pesticide exposure may cause:

■ Severe, life-threatening effects to the nervous system. Fumigants, insecticides, and rodenticides used to exterminate household pests, such as cockroaches or termites, can cause such serious effects. Fumigants are particularly dangerous because, in their gas form, they can readily penetrate your baby's lungs.

■ Cancer. Many chemicals are known to cause cancer and are banned in the U.S. However, these chemicals are used abroad, and produce imported from countries that still use them may be tainted.

What You Can Do *Store pesticides away from your baby.* A locked cabinet in an area with ventilation is best. Also, keep your baby away from areas where you mix or apply pesticides.

Use pesticides only when absolutely necessary. And then use only limited amounts. When used indoors, provide adequate ventilation during and after application, and keep your baby away from the area. If you hire a pest control company, oversee its activities carefully.

If you use an indoor bug bomb, keep your baby away from the treated area until thoroughly ventilated (at least overnight). Scrub any area where bug spray may have settled before allowing your baby to play there. The label instructions may state that it is safe to return to the house in several hours; this time period is not acceptable for babies.

Keep your baby away from a chemically treated lawn until the pesticides have settled into the soil. This process is helped by rain or your sprinkler. If you are applying professional-grade chemicals, have a licensed firm spread them.

Take your baby indoors and close the windows before applying pesticides on your lawn or garden.

Avoid buying produce from unlicensed vendors. They may be selling fruits and vegetables grown in areas where U.S. regulations on pesticides do not apply. It's best to support local seasonal agriculture and buy frozen foods out of season.

Rinse fruits and vegetables thoroughly with water, scrubbing them with a brush.

If you are growing your own vegetables, find out how the land was used previously. Choose a site that had no chemical applications and where there is no runoff from your neighbor's lawn to keep your home-grown produce pesticide-free. ■