



Out of Harm's Way:

Preventing Toxic Threats to Child Development

Creating a Healthy Environment for Your Child's Development

Personal Guidelines for Parents and Future Parents

Your children eat, drink and breathe chemicals every day in their food, water, and air. Chemicals can also be found in things like paints and cleaners that are under your kitchen and bathroom sinks, in the basement, or in the garage. Children are at greater risk of harm from exposure to toxic chemicals.

Unfortunately, the safety of many common chemicals has not been fully evaluated. We do know, however, that many of these chemicals are unhealthy (or "toxic") for a child's brain. They are also unhealthy for the brains of unborn children.

You can help. Inside are some steps you can take to make a healthier environment for your children and your family.

Why Are Children at Greater Risk from Toxic Chemicals?

Children are not just "little adults." Children can take in more toxic chemicals because, pound for pound, they eat, drink, and breathe more than adults. Children live closer to the ground where toxic chemicals often collect. When they play on the floor or carpet, they can breathe in toxic chemicals in dust. These chemicals in dust can come from inside the house (for example, a bathroom cleaner) or from outside (for example, bug sprays brought in from outside on the bottom of shoes). Children constantly put their fingers and other objects in their mouths, making it easier for toxic chemicals to get into their bodies.

Chemicals are also more dangerous to children because their brains and bodies are still growing and changing. Babies and children who come into contact with some toxic chemicals can have health problems for the rest of their lives. Because their brains may be affected, they may have problems with learning or behavior.

Creating a Healthy Environment for Your Child's Development

Personal Guidelines for Parents and Future Parents¹

Reducing Risks from Pesticides

Pesticides and herbicides (together we call them "pesticides") are chemicals that are made to kill or keep away unwanted pests like mice, ants, roaches, and weeds. Pesticides can be toxic to people too, especially children. There are many kinds of pesticides that people use in their homes, in their gardens, and on pets. You might know them as "bug spray," "ant traps," "weed killers," or by other names – but many of these products are pesticides.

Avoid Pesticides on Food

Fruits and vegetables often have pesticides on them. Pesticides are used to keep insects or weeds away while the fruits and vegetables are growing. Some fruits and vegetables have more pesticides on them than others. For this reason it is good to feed your child many different kinds of fruits and vegetables, and also try to do the following things:

- Peel or wash fruits and vegetables. This can sometimes remove pesticides from the outside skin of the fruit or vegetable.
- If possible, buy "organic" foods that were grown without pesticides (unfortunately, they are often more expensive and not always available). Buying organic also helps support the farmers and sellers of organic foods. This will help make these foods cheaper to buy over time and more available to all people.

Don't Use Pesticides in Your Home

Do not use pesticides in your house, apartment, or garden unless you have tried all other ways to get rid of unwanted insects or animals.

- Keep unwanted insects or animals out of your house or apartment by sealing cracks and holes around doors, windowsills, and around baseboards.
- Clean up food crumbs and spills and put away all food that will attract unwanted insects or animals.
- If you live in an apartment, the landlord or building manager may use pesticides to keep unwanted insects or animals out of the whole building. Talk to the manager of your apartment and ask him if he is using pesticides. If he is, tell him that pesticides can be bad for people, especially children and pregnant women. If he is spraying, ask him to stop, and tell him there are other ways to get rid of unwanted insects and animals. He can call the local public health

There are many easy things you can do to help make a healthier environment inside and outside your home. For example, you can keep plants that help clean the air inside your house. Or, you can take off your shoes at the door so you don't bring toxic chemicals into the house on the bottom of your shoes. You may need to change some of the products you buy. For example, try to look for "non-toxic" cleaning products in your grocery store, and don't use toxic chemicals like paint strippers if you are pregnant, or when your children are around.

department to find out other ways to get rid of pests. If he still wants to spray, you can tell him you do not want the spray in your apartment. You can also ask him to give you a warning at least 24 hours before he uses the chemicals, so that you and your family can be sure to stay away while he sprays and for some time after.

- If you live in a house or apartment that has too many unwanted insects or animals and you have tried to keep them away but can't, try to use pesticides that are not so dangerous - like traps (that are contained), or gels that can be put in cracks and crevices – rather than sprays, and keep them out of reach of children and pets.

Don't Use Pesticides in Your Garden

- Choose plants that grow well where you live, (for example, plants that like a lot of water if you live in a rainy place) because they are stronger and keep away insects better.
- Learn about plants that like to grow together and help keep pests off each other - they are called "companion" plants.
- Learn about helpful insects like ladybugs that can keep away other unwanted insects.
- Use safer methods to trap or kill pests, like using beetle traps, or a soap and water spray that smothers insects but doesn't harm the plant.

You can find more ideas about keeping pests out of your garden in "organic gardening" books in the library, on the Internet, or in a bookstore.

Don't Use Pesticides on Your Pets

- Do not use chemical tick-and-flea collars or flea baths or "dips" on your pets. Keep your pet clean by washing and combing its hair. Keep its bed clean to keep away fleas. There are many good tips on how to keep unwanted insects off your pets on the Internet or at your local library.

Don't Use Pesticides on Your Child

- One of the most common pesticides you might use directly on your child's body is in shampoos

to get rid of head lice. Don't use toxic shampoos to get rid of head lice. There are ways to help your children avoid catching lice from other children, like telling them not to share hats or pillows in schools and day care centers. If your child does get lice, ask your doctor about non-toxic treatments you can use.

Help Get Rid of Pesticides in Schools

- Your child spends many hours a day in school. Talk to your child's school principal and ask whether the school uses pesticides. If they do, ask them to find other ways to get rid of unwanted insects, animals, and weeds so that pesticides will not harm your child. Ask the school to make sure that you and other parents are told if and when pesticides are used. You may want to keep your child home that day, or tell your child to stay away from the places where the pesticides are being used that day. In some states, like California, there are laws that require schools to tell parents, if they ask, about pesticides used at school. Many schools are beginning to try other alternatives to pesticides. You can tell your school about some of the groups listed below that can help them think of ways to reduce or stop using pesticides.

Find out more:

- The Northwest Coalition for Alternatives to Pesticides website: <http://www.pesticide.org/factsheets.html#alternatives>
- Beyond Pesticides, part of the National Coalition against the Misuse of Pesticides (NCAMP), has on-line fact sheets, links to a national directory of least-toxic pest-control companies, and has programs on pesticide use in schools and public buildings. It also provides information on proposed pesticide legislation. <http://www.beyondpesticides.org/>
- The National Pediculosis Association, Inc. (NPA) is a non-profit health and education agency dedicated to protecting children

from pesticides used to treat lice and scabies. <http://www.headlice.org>

- Bio-Integral Resource Center has information on environmentally sound pest management. 510-524-2567. <http://www.BIRC.org>
- The Pesticide Action Network of North America (PANNA) has an on-line searchable database at <http://www.pesticideinfo.org>
- The Healthy Schools Network, Inc. (HSN) is a nationally recognized, state-based advocate for the protection of children's environmental health in schools. 518-462-0632. <http://www.healthyschools.org>

Reducing Risks from Lead

Lead is a metal that was often used in the past in household water pipes and paint. Lead is still used in some other products. Exposure to lead can harm a child's brain and interfere with a child's normal development. Children under 6 years old are most likely to get lead poisoning. They get it from putting things in their mouths that may be contaminated with lead dust (their hands, toys or pacifiers), from eating lead paint chips, and from chewing on windowsills or door frames that have lead paint. It may be hard to tell if your child has lead poisoning. A blood test is the only way to find out. Ask your doctor to check your child for lead each year, starting at age 6 months and continuing until age 6.

Avoid Contact with Lead Paint

- If you live in a home built before 1978, it probably has lead paint. A person who specializes in lead paint should test the paint to check for lead, especially if it is chipping or peeling. If the paint does have lead in it, it should be carefully taken off or covered up. If taking it off is the best choice, it must be done by a trained person who has a special lead removal license, since taking off lead paint can make even more problems if it is not done the right way. Never sand or remove paint yourself that may contain lead or that may have lead paint underneath.
- It can be very expensive to remove lead paint. There are many programs in cities to help people get the money to remove the lead paint from their homes. Call your city health department and ask about these programs.
- When lead paint cannot be taken off safely, it should be covered over or sealed in so it cannot get into the air and dust and your children cannot eat it or breathe it. You might be able to cover lead-painted surfaces with tile, wallpaper, paneling, or contact paper. Take care to cover any loose paint around windowsills. Make sure the insides of windows where they slide up and down aren't

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painted, as lead dust can come off when windows open and close.

- If you have lead paint in your house, wash your children's hands and toys often. Wipe floors, counters and other places where lead dust might be with a damp cloth or mop. If you need to vacuum, use a special vacuum that filters fine dust (check the label for one that says a "true HEPA"). Never use a household vacuum or broom to clean up lead-paint dust because it can spread the dust around even more.

Lead in Other Products

- Don't buy products that say on the label that they have lead in them, or that you think might have lead in them. Products that may have lead in them are candles with wicks containing lead, pottery with lead glaze, hair dyes and some lipsticks. Vinyl mini-blinds made before 1996 may contain lead, which can be released into the air by sunlight. Get rid of older vinyl blinds and put up other window coverings.

Lead in Water

- You cannot see, taste, or smell lead in your drinking water. To be safe, run water from your sink for a minute or two in the morning to get rid of water that may have lead in it from leaded solder. Try to run it long enough so that the water is as cold as it can get. (Leaded solder was used in pipes until 1986, and is still used in faucets and water coolers).² You can also use a water filter which takes out lead (make sure you read the label before you buy it and that it says "removes lead." Not all water filters remove lead.). Boiling water does not remove lead. Always use cold water for drinking, cooking, or baby formula.

Lead in Dirt or Soil

- Have the dirt in your yard tested for lead. If lead is present, do not let your child play in the dirt. If you find lead in your dirt, you can cover it up with cement or bricks. Whatever you do, do not grow vegetables, herbs, or other food in the dirt. If you must grow your own vegetables, remove at least the top 6 inches of dirt that has lead in it and put in new, clean dirt. Or, you can build raised beds, putting at

least six inches of new dirt on top of the dirt that has lead in it.

Find out more:

- National Safety Council's National Lead Information Center has information, referrals, and technical assistance in English and Spanish. (800) 424-LEAD.
- Environmental Protection Agency lead information page. <http://www.epa.gov/opptintr/lead/index.html>
- Alliance to End Childhood Lead Poisoning (AECLP) offers newsletters, fact sheets, and other useful resources. Among fact sheet topics is general information on lead poisoning, testing homes, screening children, and advice on painting and remodeling. 202-543-1147. <http://www.aeclp.org/>

Reducing Risks from Mercury

Mercury is a metal used in thermometers (and some other medical equipment), dentistry, fluorescent light bulbs, and batteries. It is also used by some people for religious purposes, or for science experiments in schools. Mercury is bad for the growing brain and can cause problems with learning.

One of the most important things to know about mercury is that you should never throw away products in the regular trash that have mercury in them. If there is mercury in something, it is called "hazardous waste" and needs to be thrown away in a place where it cannot get into the ground, water, or air.

Mercury in Food

Mercury gets in our body mostly when we eat fish. Mercury is found in the meat of a fish, not in the fat. It is not safe for pregnant women and young children to eat fish that contain high amounts of mercury. These include swordfish, shark, king mackerel, tilefish, fresh tuna, and many fish caught in rivers and lakes that are polluted.³

Canned tuna also has some mercury in it. Adults should eat no more than 7 ounces a week⁴ (about one small can) and children no more than 2 ounces a week (less than one-third of a small can). If you eat fish, choose fish that are lower in mercury and other pollutants, such as cod, haddock, and pollock^{5,6}

Other inexpensive, low-fat sources of protein include beans, lean chicken, turkey, and eggs without the yolk. Some fatty fish like salmon and herring have fatty acids that are good for you ("omega-3 fatty acids"), but also have toxic chemicals like PCBs that can be bad for the brain.^{7,8} If you are pregnant or thinking of getting pregnant in the next few years, avoid the fatty fish with PCBs and try to eat other foods that have good fatty acids like flax seed or flax-seed oil, soybeans, tofu and walnuts.

Mercury in Thermometers

- Many people still have mercury thermometers. As of July 2002, mercury thermometers will no longer be sold in California due to a new law that passed in 2001. There is a national law that, if passed, may prevent most sales of mercury thermometers in all other states.

Don't throw your mercury thermometer in the trash, because when the trash is disposed of, mercury may end up getting into lakes and streams, and later, into the plants and fish that are in the water. When people eat the fish, they will also eat the mercury in the fish. Instead of throwing away your mercury thermometer, bring it to your town or county "household hazardous waste" disposal site. Some cities or counties have household hazardous waste disposal days where the trash collectors will pick up mercury products on that day.

Many cities and other groups are now collecting mercury thermometers so they can be disposed of safely. Call your County or City Health Department to find out if your community, fire department, or a local hospital is planning an exchange, where you can turn in your old mercury thermometer and get a new digital thermometer for free.

Never vacuum up mercury from a broken thermometer. This is very dangerous. The mercury will be spread around the house in the vacuum exhaust. Sweep it up with a broom, wear gloves and pick it up with tweezers, put the mercury and the gloves in a jar with a top, and bring it to your "household hazardous waste" disposal day. Do not put mercury in the sink, the toilet, or the trash.

Mercury in Fluorescent Lights

- Fluorescent lights that save energy contain mercury. Ask if your town recycles these items (most do not). If not, save them for a "hazardous-waste collection" day if one happens in your community. If you don't have one in your community, find out where you can take your mercury products to a hazardous waste center.

Mercury in Batteries

- Some batteries (mainly small button batteries) contain mercury. Try to buy batteries with no mercury in them. Recycle those that have mercury with your community recycling, or at stores that recycle batteries.

Mercury in Religious Practices

- Some Latino and Afro-Caribbean traditions, including Santeria, Palo, Voodoo, and Espiritismo use mercury in rituals. It is sometimes worn as an amulet, sprinkled on the floor,

added to oil lamps or swallowed. Never use mercury for rituals, it can contaminate your house and make you sick. The mercury for rituals is the same mercury that is in thermometers and light bulbs, and when put in the air, water, and on land can get into the plants and fish we eat.⁹

Find out more:

- Health Care Without Harm can provide information on getting rid of mercury, how to exchange mercury thermometers, and how to clean up a broken mercury thermometer. Many of their materials are in several languages. <http://www.noharm.org>
- You can also find out more information about community efforts to remove mercury by contacting Clean Water Fund in your community. <http://www.preventingharm.org>.

Reducing Risks from Solvents

A solvent is a substance (usually liquid) that is used to dissolve another substance. Solvents can get into the body by breathing, drinking, or through the skin. Solvents can harm the nervous system and brain.

Alcoholic beverages, gasoline, most furniture strippers, glues, adhesives, paint thinners, and some cleaning products and cosmetics contain solvents. Solvents can be in drinking water and can also be absorbed through the skin or inhaled in the shower. Most dry cleaning is done by using a toxic solvent.

Alcohol

- Pregnant women should stay away from alcohol throughout pregnancy and nursing. Since alcohol exposure very early in pregnancy may interfere with the baby's brain development, it is wise for women to stop drinking alcohol as soon as they begin trying to get pregnant.

Solvents in Products

- Some jobs and hobbies (such as painting, model building, furniture refinishing, and auto

If you must work with solvents, do so only in areas that have a lot of fresh air circulating and avoid skin contact.

repair) may involve exposure to solvents. Pregnant and breast-feeding women should not do these activities, and children should not be exposed. If you must work with solvents, do so only in areas that have a lot of fresh air circulating and avoid skin contact. When possible, use non-toxic, water-based products instead of products that contain solvents.

continued

Solvents (continued)

Solvents in Water

- If you have well water, have it tested. If it has solvents in it, don't drink it. You can buy water filters that will remove solvents from your drinking and shower water. Make sure the filter says "removes organic solvents."

Dry Cleaning

- Women who are pregnant, trying to become pregnant, or nursing should avoid any exposure to dry cleaning, including recently dry-cleaned clothes. Try to buy clothing that does not require dry cleaning. If you must dry clean an item, take off the plastic wrap when you pick it up. Then put the clothes in the car trunk for the drive home. Hang just dry-cleaned clothes outdoors before wearing them or putting them in the closet.

There are alternatives to traditional solvent-based dry cleaning. Wet-cleaning processes that use soap and water are extremely effective. Find out if there is a cleaner near you that uses wet cleaning, or urge your local dry cleaner to switch to safer cleaning methods.

If you live above or near a dry cleaner, a local health or environmental agency should help make sure that you are not exposed to fumes.

Find out more:

- EPA Indoor Air Quality Hotline: (800) 438-4318
- EPA Safe Drinking Water Hotline: (800)426-4791

Healthy Food Can Help Protect Your Child

Eating more fruits, vegetables, beans, grains, and low-fat or nonfat animal products is healthiest for you and your child.

Eat Foods with Less Animal Fat

- Eating foods with less animal fat is important because many harmful chemicals are stored in animal fat. Eating less fat is also good for your general health. Children can start to eat less fat once they are over 2 years of age. Animal fats are in meat, chicken, and fish and are high in many dairy products (especially cheese), processed foods made from ground meat and animal parts such as sausage, bologna, hot dogs, and canned and ground lunch-meats.¹⁰

Try to eat only low-fat animal products, such as nonfat or low-fat milk and cheeses, and lean meat, poultry, and fish. Cut the fat off meat before you cook it.

Eat a healthy diet before and during pregnancy and breast-feeding. That will help to protect

Many cleaning and freshening products, including antibacterial soaps, bleach, ammonia, air fresheners, and some cosmetics may contain toxic ingredients. Try not to use them.

your unborn baby or nursing child from harmful chemicals found in animal fat. The best protection of all is to eat foods that are low in toxic chemicals throughout your life.

Chemicals in Plastics

- Plastics and some chemicals put into plastic to make it stronger or stretch can get into food. If the food is in plastic containers, sometimes the chemicals in the plastic can get into the food that is stored in the container. Some of the chemicals may be toxic to a baby in the womb. These chemicals can be particularly bad for the baby's growing reproductive body parts.

Do not store food in plastic wraps. Do not microwave food in plastic wraps or in plastic containers.

Use Safer Household Products

Many cleaning and freshening products, including antibacterial soaps, bleach, ammonia, air fresheners, and some cosmetics may contain toxic ingredients. Try not to use them. Instead, try cleaning with basic soap and water that often can do just as good a job. You can make your own cleaning solutions with things like baking soda, soap, and vinegar. The use of scrubbing pads and brushes can also eliminate the need for toxic cleaning products.

Find out more:

Look in the library for books on nontoxic products you can buy, and also ones you can make yourself.

Use Safer Building Materials and Furnishings

Building Materials

- Toxic vapors and dust are often present during home remodeling and new construction. Pregnant women and young children should stay away from areas where this work is being done.
- Certain types of wood products (plywood, chipboard), carpeting, and furniture may give off harmful vapors (often you can smell them). When possible, choose nontoxic or less-toxic furnishings and building materials, such as solid woods and natural, untreated fabrics.

Carpets

- Carpets hold lots of pollutants, including lead and pesticides. Remove carpets if possible, especially from children's bedrooms and play areas. Take off your shoes when you enter the house so you don't bring in pollutants from outdoors.

Natural-fiber area rugs are made without chemicals and, unlike wall-to-wall carpets, do not need to be glued with toxic chemicals. Try to buy carpets that do not need to be glued to the floor and that don't have a chemical smell.

Carpets and smaller rugs should be washed frequently to remove pollutants. Avoid using a vacuum unless it has a good filter for fine dust (check the label for "true HEPA" filter), because vacuuming can lift pollutants into the air.

Breast-Feeding is Best for Your Baby

Both baby formula and breast milk contain toxic chemicals from environmental pollution. However, the good things about breast-feeding are much more important than the dangers of chemicals in breast milk.

Considering all the information we have, breast-feeding is still the best way to feed your baby.

- We recommend that you breast-feed your baby for at least one year.¹¹ Breast-fed babies seem to be healthier than babies that are fed formula in a bottle. They also seem to be healthier when they get older.
- Mothers who breast-feed lose the weight they gained during pregnancy more quickly
- Mothers who breast-feed have stronger bones, which reduces the chance of breaking a hip when they get older.
- Mothers and mothers-to-be can make their breast milk safer by eating less animal fat and not eating fish with mercury. Follow the guidelines in the "Healthy Food" section.

For more information on breast-feeding, see the fact sheet: "Why Breast-Feeding is Still Best for Baby"

Avoid Tobacco

Children whose mothers smoked during pregnancy, or who were exposed to smoke from those around them smoking, are at risk for problems with learning and intelligence. Pregnant women should not smoke or be near others who are smoking.

General Resources on Children's Health Protection

Children's Environmental Health Network A nonprofit organization working to promote a healthy environment, and protect the fetus and the child from environmental health hazards. Publications include: Lead Risk Assessment Form (English and Spanish); Tips For Parents – You Can! Prevent Lead Poisoning (English and Spanish). 202-543-4033. <http://www.cehn.org>

Children's Health Environmental Coalition (CHEC) A nonprofit organization dedicated to education about environmental toxins that affect children's health. Go to CHEC's "HealthHouse", and find out how to make your home a healthier place. Or sign up for First Steps, a monthly email program for parents-to-be and parents that gives simple steps people can take to minimize toxic chemical risks to the unborn child and baby. 609-252-1915. <http://www.checnet.org/>

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This fact sheet addresses personal actions, and not the community and political actions that are necessary to institute health-protective public policies. For more information on health protection at the community and political level, and for more in-depth information on preventing personal exposure, see <http://www.preventingharm.org/> and other linked web sites.

This fact sheet has been written as a companion to the report *In Harm's Way: Toxic Threats to Child Development*, issued by Greater Boston Physicians for Social Responsibility (GBPSR) in May, 2000. It was revised in Fall 2002 by GBPSR, San Francisco Bay Area PSR, the Institute for Agriculture and Trade Policy, and Clean Water Fund, California. The 140-page report can be viewed, downloaded, or ordered at <http://www.igc.org/psr/>. It is part of a series for the project *In Harm's Way Training Materials for Health Professionals*.

For more information on this and other fact sheets in the series, contact: Greater Boston Physicians for Social Responsibility, 11 Garden St., Cambridge, MA 02138. 617-497-7440. psrmabo@igc.org. In California, you can contact San Francisco Bay Area Physicians for Social Responsibility, 2288 Fulton Street, Suite 307, Berkeley, CA 94704. 510-845-8395. info@sfbaypsr.org. Or, Clean Water Fund, 814 Mission Street, Suite 602, San Francisco, CA 94103. (415) 369-9160. cwasf@cleanwater.org.

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