# A Parent's Guide



# Reducing Children's Environmental Health Risks

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# How serious is the environmental threat to our children?

On April 21, 1997 Bill Clinton, the President of the United States, and the U.S. Environmental Protection Agency (EPA) Administrator, Carol Browner released an Executive Order entitled:

#### Protection Of Children From Environmental Health Risks and Safety Risks.

This order states:

"A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These arise because: children's neurological, immunological, digestive, and other bodily systems are still developing; children eat more food, drink more fluids, and breathe more air in proportion to their body weight than adults; children's size and weight may diminish their protection from standard safety features; and children's behavior patterns may make them more susceptible to accidents because they are less able to protect themselves. Therefore, to the extent permitted by law and appropriate, and consistent with the agency's mission, each Federal agency:

(a) Shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and

(b) Shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."

This Executive Order reflects the growing concern of parents and other advocates for children over the environmental threats to our children's health. All over the country, in urban and rural settings, among low, moderate and upper income families of every ethnic and cultural background, parents are worrying about unsettling numbers of children with leukemia, cancer, asthma, learning disabilities and birth defects.



The statistics are frightening. Asthma in children has increased by more than 92% from 1982 to 1994 according to the American Lung Association.

Childhood brain and nervous system cancers jumped 53% between 1973 and 1995. During the same time period, acute lymphocytic leukemia increased 128% in teens ages 15 to 19 years.

How do we turn our fears for our children's health and safety into actions that protect them?

That's what this booklet is for. To help parents understand the depth of the problem and to suggest some concrete steps we can take to protect our children from environmental harm.

Some of the suggestions are action steps that you can take at home to reduce the risks to your family. Others are national efforts that you can become involved in as part of the growing network of parents working to eliminate the sources of pollution that are linked to children's health problems. These larger campaigns address problems that cannot be solved one family at a time.

It will take powerful voices of parents -- a choir nationwide -- demanding the needed changes to protect our children's health.

Children are not little adults. Infants and children are different and are more exposed to environmental threats and more susceptible to environmental disease than adults.

Let's look at these differences.

Because children's systems are still developing, they are more susceptible to environmental threats. Children move through several stages of rapid growth and development, from infancy through adolescence. Exposure to toxic substances can affect fetal, infant, and childhood growth, impairing development of their nervous systems, and causing abnormal development because of hormonal or immunologic effects. For example, infant immune systems are less well developed, so they may be less able than healthy adults to recover rapidly from exposure to bacteria found in drinking water, or to common viruses.

Because children eat proportionately more food, drink more fluids, and breathe more air, they are more exposed to environmental threats than adults. Children consume more calories, drink more water and breathe more air per pound of body weight than adults do, and their body tissues can more readily absorb many harmful substances.

Because children behave like children, they are more exposed to environmental threats. They spend more time outdoors.
Children's natural curiosity, tendency to explore, and tendency to place their hands in their mouths often leaves them open to health risks adults can more easily avoid. When young children crawl on the ground or the floor or play outside, they are more exposed to potentially contaminated dust and soil, lead paint, household chemicals, garden chemicals and other potentially hazardous substances.



Children eat more food, drink more fluids and breathe more air than adults

# What are we learning about the link between pollution and the health threats to our children?

We are only now recognizing the magnitude of the health threats to our children. Asthma, according to the American Lung Association, affects 4.8 million children under the age of 18 and is the leading cause of hospital admissions among chronic conditions for our nation's children. The number one disease-related cause of death in children is cancer. And, the rate of childhood cancer continues to rise. The following charts show the increases in childhood cancers for two different age groups.

### Childhood Cancers Commonly Associated With Environmental Exposures Continue To Increase

Percentage Increase in Incidence Rates From 1973 to 1995



All Cancers Combined - 24%

#### Children Ages 0 - 4

Source: National Cancer Institute, Surveillance, Epidemiology, and End Results (SEER) Cancer Statistics Review, 1973-1995, Ries LAG, Kosary CL, Hankey BF, Miller BA, Edwards BK (eds), National Cancer Institute, Bethesda, MD 1998.

# Birth defects can occur from mothers' lifetime exposures to environmental chemicals.

A newborn has a 1 in 600 chance of contracting cancer by 10 years of age. Approximately 8,500 children ranging from newborn to 15 years of age are diagnosed with cancer each year.

Along with evidence about the rise of childhood asthma and cancer, there is also mounting evidence involving various harmful chemicals acting as disruptors to the human endocrine system. A great body of evidence has already been documented about various other animal species, and now scientists are trying to find the links between chemical hormone mimics and our own human biological systems.

Similar to asthma and cancer, children can be affected at an early age by these chemicals, and often even before birth. Certain chemicals may cause permanent effects on the fetus hindering normal prenatal development.

One such example of birth defects in young males is hypospadias, in which the urinary opening is mislocated. Cases of this defect doubled between 1968 and 1993, according to the federal Centers For Disease Control, and this problem now affects 1 in 100 newborn boys.

These children with asthma, cancer, and birth defects do not smoke cigarettes, drink alcoholic beverages or work in dirty industries. Nor can their cancer be the result of something they were exposed to 20 years ago.

So what's going on?



A growing body of evidence makes the link between our children's health problems and chemical exposures from their mothers' womb and breast milk, as well as through food, drinking water, and their immediate environment.



Children can often be affected before birth.

A mother's womb is a child's first environment.

# How do the chemicals reach so far and contaminate so much?

Let's look at two of the highly toxic and pervasive chemicals that threaten our children - dioxin and mercury.

Dioxin is considered to be one of the most toxic chemicals ever tested. The U.S. Environmental Protection Agency (EPA) has been assessing the toxicity of dioxin for over 9 years. In their most recent draft report, EPA stated that every man, woman and child is at or near "full" of dioxin. Think of our body's fatty tissue as a storage place for this chemical . . . much like a sponge can absorb and hold a certain amount of water. What EPA is saying is that our bodies have already absorbed and are holding almost enough dioxin to reach a point which can result in health problems. However, even at current storage levels, scientists are finding health problems in some people.

Some of the health effects caused by dioxin include cancer, immune system suppression, birth defects, learning disabilities and attention deficit disorder, and reduced sperm counts. Dioxin also crosses the placenta and is transferred to nursing infants through breast milk.

Mercury is also very toxic, especially to the nervous system. Mercury poisoning can lead to mental retardation, learning disabilities, kidney damage and damage to the developing fetus which is especially sensitive to mercury. The organic form of mercury, methyl mercury, readily crosses the placenta and penetrates the developing baby's brain making it possible for the child's brain to absorb a much higher level of mercury than the exposed mother. Mercury can additionally be transferred to the nursing child through breast milk.



Dioxin is released into the environment primarily from incineration processes and from the bleaching of paper pulp. Hospital, garbage and hazardous waste incinerators, cement kilns that burn hazardous waste, paper mills that use chlorine to bleach paper and manufacturing plants that use chlorine to make pesticides or plastics are all major sources of dioxin.

The largest sources of mercury emissions are power plants and garbage and medical waste incinerators. Facilities that burn coal and oil release mercury. Other sources include cement kilns, industrial processes such as lead smelters, and mercury and chlorine production plants.

# You don't need to live near a pollution source to be exposed to environmental chemicals.

When dioxin, mercury, and other harmful chemicals are released into the environment, these chemicals travel great distances on air currents and end up in the water or on the ground. The fish and seafood feeding in the water and the animals which eat the grass ingest the mercury and dioxin that have landed there. Animals higher up the food chain, including humans, that eat the fish or the grazing animal also get all of that animal's load of dioxin and mercury.

One study, conducted by Dr. Barry Commoner from Queens College in New York, found that dioxin deposited in the Great Lakes came from incinerators and other sources as far away as Louisiana (Cohen, Commoner 1995).

Our children drink this contaminated milk and eat the beef. It's not the farmer's fault the cow's milk is contaminated, and it's not the parent's fault that the child is receiving dangerous chemicals when he or she drinks milk.

This does not have to be. We can have white paper without chlorine bleaching, and manage our garbage and hazardous wastes in ways that do not require burning. Our hospitals and health care institutions do not need to burn all the waste that they generate. Cost effective alternatives do exist, and they won't result in massive job loss or economic crisis.

The cause of this massive poisoning of our children and environment is the failure of a regulatory system which once believed that exposure to a little bit of toxic chemicals wouldn't hurt anyone.

We now know this is not true. It is time to act - for the sake of our children and for future generations.



Every time we give our children beef, pork, chicken or milk we are feeding them a chemical called diotin.

# We need to work together to build a sustainable environment and economy.



Some say building a sustainable environment and economy is not realistic, but we've already seen what changes can be made by a powerful, organized group of parents. You may recall the campaign started by a group of parents who refused to feed their children apples contaminated with the pesticide alar. Schools, day care centers and refrigerators nationwide went without apples until the growers produced them without alar.

We've seen what the parents at Love Canal in Niagara Falls, New York accomplished when they discovered a dump site was threatening their community. More than 900 families were evacuated from the community after fighting for more than 2 years.

We've also seen how a nationwide campaign carried out mostly by children and teenagers can influence corporate behavior. Thousands of children and school groups protested McDonald's use of styrofoam packaging. McDonald's relented and stopped using foam in favor of recyclable paper packaging. Yes, it can be done, but only if parents and consumers get involved.

Through hard work and determination, a South Bronx community succeeded in closing down an incinerator which was polluting their community. The community forced the New York State Governor and Attorney General to enforce the laws, causing the BFI medical waste incinerator to "voluntarily" close in July of 1997. Each day this incinerator had been burning 48 tons of medical waste from three states. The population of South Bronx near the site consists mostly of low income families of color, where the largest ethnic group is Puerto Rican. The battle to close the incinerator was waged by the people of the community against the politicians who initially backed the incinerator.

People were concerned about increases in school absenteeism due to asthma and complaints from children feeling ill after outdoor recess. Emergency room and clinic visits for asthma had doubled in the two years after the incinerator opened. This battle ended with a major victory for a grassroots community group, which included parents, children, teachers and principals, against the politicians who backed the incinerator.

# Faced With A Childhood Cancer Cluster, the Families of Taylorville Fought For Justice

Unlike the South Bronx case, the residents of a cancer cluster town in Illinois ended up taking the company to court. In the 1980s in the small town of Taylorville, Illinois (population 11,000), a rare childhood cancer developed in six area children, killing two. These innocent children suffered from neuroblastoma, a cancer which attacks the adrenal glands and sympathetic nervous system.

The parents believed that this cancer cluster developed due to excavation of an abandoned coal-gasification plant on the southern edge of town. The plant was found in the mid-1980s to be contaminated by the toxic coal tar by-product it produced.

Four of the afflicted families lived within three miles of this federal Superfund site. The families decided to take Central Illinois Public Service Company (CIPS) to court for mishandling of the coal tar cleanup. They won and were awarded three million dollars.

Although CIPS strongly denied any medical connection linking the carcinogen with the neuroblastoma cases, the families of the victims refused to give in. Unfortunately, no amount of money will bring their children back or make the sick children well again. But a company made a mistake, and was forced to take responsibility for their actions.

Change doesn't mean sacrificing our economy, our quality of life, or going back to the days when we lived in caves. We can still maintain our lifestyles. It means taking care of our waste responsibly. It means not burning waste that causes our meat, fish, and dairy supplies to become contaminated with dioxin and mercury. It means growing food with fewer chemicals. It means making plastics and paper products without using the dangerous chemical chlorine.

These few steps would make a huge difference. And we would still have plenty of food, plastics, and white paper without sacrificing our children's health or destroying our economic base. These are places where we can start to eliminate the poisons that are getting into our children's bodies. A few steps



can make a huge difference!

# How children are exposed through their food.

One of the ways children are exposed to toxic chemicals is through their food. Historically, regulations limiting contaminants in food have been based on an adult's exposure over a lifetime. Children aren't little adults. Their bodies, and their food and water intake pattern, are uniquely different.



Even while in their mother's womb, too many children are receiving doses of toxic chemicals. These exposures to chemicals in utero and after birth have significant consequences to the developing child because of their rapid growth rate.

During prenatal development, infancy, childhood and adolescence, children are growing and adding new tissue more rapidly than any other period of their life. And, different organs and tissues mature at different rates.

For example, the brain achieves 50% of adult weight by six months of age while 50% of the adult weight of the liver, heart and kidneys is not reached until the child is about nine years old.

At any time during this growth period, chemical influences can alter the normal growth pattern and/or stimulate the growth of unwanted cells such as cancer.

Children often receive their first exposures to chemicals while still in their mother's womb. Many chemicals pass through the placenta into the developing child, interfering with normal growth and development.

For example, some chemicals that pass through to the developing fetus are the same shape as natural human hormones. Consequently, these chemical molecules can "sit" in the space of a cell in the developing baby's body that was ready to receive a human hormone which controls development. By taking the space of the human hormone but not acting like a human hormone, this molecule can misdirect the growth and development of the fetus.

Hand Me Down Chemicals Can Send The Wrong Messages To A Developing Child.

These chemicals can send the wrong message about thyroid hormone levels in the brain. Thyroid hormones are critical to normal neurological development. Lower thyroid levels in the brain can cause permanent brain damage which can result in mental retardation, hearing loss and speech problems, impaired learning and memory, hyperactive behavior and attention deficit disorder.

Chemical substances which mimic hormones are commonly referred to as endocrine disruptors and have been linked to many other health problems including reproductive cancers. The drug DES, which was given to pregnant women to prevent miscarriage between 1941-1971, worked as an endocrine disrupting chemical on the developing fetus.

Decades later, these DES exposed daughters developed cervical cancer. There are about 10 million DES mothers and daughters in the U.S. It is estimated that one in every thousand DES-exposed daughters will develop cancer.

The DES tragedy teaches us that it is not enough to protect children only after they are born. We also need to protect them by protecting their parents.



Mothers pass a portion of the chemicals they have accumulated in their body to their children during pregnancy and through breast feeding.

Men are also at risk. Endocrine disrupting chemicals can interfere with a man's ability to produce enough healthy sperm to father a child.

Men can also pass on damaged genes which can result in children born with birth defects and learning disabilities.



Chemicals can send the wrong messages to a developing child's brain causing serious problems.

# Children's Food

One of the first foods many infants receive is breast milk. Breast milk can carry high levels of toxins. Many chemicals, including dioxin, PCBs, DDT and other pesticides, can accumulate over years in human fatty tissues. Because breasts and breast milk are high in fat content, breast milk becomes a storage place for a lifetime's collection of chemicals. These chemicals are released in the breast milk to the nursing infant and can adversely affect the infant's development. In fact, each time a woman breast feeds her baby she actually reduces her body accumulation of chemicals by feeding these chemicals to her child. Thus, the first child will receive higher levels of chemicals from breast milk than the second, and third and fourth child.

After breast feeding, children usually consume a variety of baby foods. In a 1998 Consumer Reports article about various endocrine disruptors, the results from the analysis of a variety of baby foods (type and brand) revealed startling data. If a baby ate a 2.5-ounce jar of an average meat-based baby food, he/she would have ingested 100 times the EPA's daily safe limit of dioxins.

Children ages one through five eat three to four times more per unit of body weight than the average adult. The average one-year-old drinks 21 times more apple juice, eleven times more grape juice, and eats 2 to 7.5 times more grapes, bananas, apples, carrots and broccoli than adults. Children also drink more milk and eat more dairy products per unit of body weight than adults.



(NFCS - National Food Consumption Survey)

Milk, cheese, and other dairy products make up the food group consumed in the largest quantity by children ages 1-5. If you look at the bars for non-nursing mothers on the chart, you can see the highest bar is milk and if you add milk fat solids to that bar it far exceeds all other food groups.

# Why is this important?

One reason is dioxin. The most recent study by the Environmental Protection Agency (EPA) found significant levels of dioxin in milk and milk products and beef. EPA found that the average daily adult diet contains 300-600 times more dioxin than is considered safe.

EPA considers a chemical level "safe" when it does not cause more than a one-in-a-million cancer risk from lifetime exposures. Today's dioxin levels found in the average adult daily diet increase our cancer risks to 1 in 1,666 people. A calculation has not been made for children's diets.

This chart below (*Source: USEPA, 1994d*) shows the level of dioxin in common foods ingested by adults. If you look at the chart you can see how these numbers would increase for children who drink more milk, and eat more dairy and beef per unit of body weight.

Other important sources of protein, fish and seafood, also increase a child's exposure to mercury, both in the womb and during childhood. From January to September 1994, over 1,500 advisories warning people not to eat fish were posted on rivers and lakes nationwide. Over 73% of the advisories were related to mercury contamination. However, fresh water fish are not the only fish that are contaminated.

Tuna also has mercury levels that could pose significant health risks to our children. Exposure to high doses of methyl mercury during pregnancy and the first few months of life may pose particular threats to a child's developing nervous system.



The average daily adult diet contains 300-600 times more diotin than is considered safe.



# Food Is Not The Only Way Children Are Etposed To Environmental Chemicals

PCBs (polychlorinated biphenyls) and dioxin are other chemicals that have caused warnings against fish consumption. PCBs were banned in 1976 because they caused cancer. Now, over twenty years later, this toxic chemical still persists in our environment, contaminating fish. Children whose mothers' bodies contain high levels of PCBs when pregnant may develop learning disabilities and experience delayed development.

The food itself is not the only way children are exposed to the chemicals; what the food is wrapped in also plays a significant role. *Consumer Reports* found that 2 out of 11 brands of plastic wrap contained plasticizers, which add flexibility to plastic wraps. These plasticizers can migrate from plastic wraps into foods, especially fatty ones (e.g. hamburgers, cheese). When food was reheated with plastic, tests showed migration where the plastic touched the food. These plasticizers can include two types which have been linked to health problems in lab animals -- adipates and phthalates.



## Children and Asthma

Air pollution has long been implicated in childhood deaths and hospitalizations, and reduced quality of life resulting from respiratory trauma and disease. A number of studies have associated childhood exposures to air pollution with increases in school absences, decreased lung function, and increased incidences of bronchitis and asthma.

Unfortunately, the disease called asthma, where a person is often short of breath, wheezes, coughs, and is congested, affects approximately 4.8 million children in the United States alone. This disease is a breathing ailment in which the lung airways narrow due to spasm of the muscles or in which the airways become inflamed due to external triggers.

According to the American Lung Association, the number of total asthma cases has increased 92% from 1982 to 1994. Of the 15 million people who suffer from the disease today, approximately 30% are children. An astounding \$1.9 billion dollars is spent on treatment annually for children 18 years and younger. Asthma accounts for 10 million lost school days a year. And between 1979 and 1995, asthma alone was responsible for 4,762 deaths among people under 24 years of age, showing an increase of 140% for that time period.

Triggers for asthma in children are many and vary a great deal. Both allergens and irritants can trigger asthma. Allergens are found both indoors and outdoors in the forms of pollen, mold, animal dander, dust mites, cockroaches, and certain foods. Irritants include strong odors and sprays found in the household (e.g. perfumes, household cleaners, cooking fumes, paints, etc.), substances such as coal or chalk dust, and tobacco smoke.

Outdoor air pollution comes from incinerators, chemical plants, refineries, trucks and buses, large landfills and gasoline. Specific air pollutants, such as mercury, dioxin, furan, lead, nickel, cadmium, copper and fly ash (the solid residue left behind after burning) come from garbage incinerators, medical waste incinerators, hazardous waste incinerators, coal fired power plants and the production of chlorine. Sulfur dioxide and ozone are other outdoor pollutants that can trigger asthma.

## Children and Drinking Water

Drinking water is another source of exposure for our children. Infants and children drink more than 2.5 times as much water daily as adults per unit of body weight. All of the existing standards for contaminants in our water supply are based upon an adult's body weight and average daily adult consumption. This means that our children are drinking water in some parts of the country that is exposing them to dangerously high levels of contaminants. Showering and bathing in warm, contaminated water means that the child's body will be exposed through skin absorption and breathing in the moist, warm air.

### Children and Pesticide Usage

Pesticides pose a risk for children, both as household chemicals and in food, particularly because children consume higher amounts of fresh produce than adults. Many of the pesticides applied to food crops in this country are present in foods in trace amounts. However, children may be exposed to multiple pesticides that produce the same toxic effects.

Children's exposures and risk are underestimated when they are based on adults exposed to a single substance. This means that actual exposures could result in acute pesticide poisoning, despite risk estimates that would predict no cause for alarm.

Some pesticides can cause cancer, central nervous system damage, or respiratory illness. In addition, exposure to pesticides early in life can lead to a greater risk of chronic effects that are expressed only after long latency periods have elapsed, such as cancer, neurological developmental impairment (like learning disabilities) and immune dysfunction.



hfants and children drink more than twice the amount of water that an adult drinks per day.

# Pesticides h Children's Environment Are Also Of Concern

Consumption of food isn't the only way children are exposed to pesticides. Homeowners use pesticides in their gardens and for pest control in their homes for termites or ants. Many schools and day care centers use pesticides as well. When children crawl on the floor or near the gardens where these chemicals are applied they are exposed through hand to mouth activity, dust and skin contact.

Many pesticides volatilize or evaporate into the air and small children breathe in these chemicals. Most uses of pesticides are not necessary, as there have been significant advances in integrated pest management techniques that use few or no chemicals.

Because of differences in genetic, physical, environmental, cultural, and social experiences that influence growth and development, major difficulties exist in assessing the effects of pesticide exposure on children in the U.S.

However, a recent study done by Elizabeth Guillette, takes an anthropological approach to the evaluation of northwestern Mexican children exposed to pesticides in the Yaqui Valley. Two groups of 4-5 year old Yaqui children, who share similar genetic backgrounds, diets, water mineral content, cultural patterns, and social behaviors, were evaluated based on their major difference of pesticide exposure.



#### Drawings of five year old Yaqui children

Since the 1940s, pesticides have been used in the valley's agricultural area; and in 1990, high levels of multiple pesticides were found in breast milk and cord blood of newborns. Children in the foothills, where pesticide use is avoided, were compared to children of the agrarian region. Functionally, the exposed children showed decreased stamina, gross and fine eye-hand coordination, 30-minute memory and the ability to draw a person. The representative drawings of five year old Yaqui children from the valley and foothills are shown above.

### Children and Lead

Since the ban on leaded gasoline and lead-based paint, the U.S. has reduced lead levels in the air by 98%, which has reduced children's blood lead levels by 75%.

However, lead is still a leading environmental health hazard for young children, affecting as many as 1.7 million children aged five and under. This is equivalent to one out of every 11 children.

Although lead based paint was taken off the market a long time ago, children living in older homes are still threatened by chipping or peeling lead paint or excessive amounts of lead contaminated dust.



More than 80 percent of homes built before 1978 (around 64 million homes) contain lead paint.

Recent studies by the Consumer Product Safety Commission (CPSC) found that playground equipment exposed to sunlight, heat, moisture, and normal wear and tear can release excessive amounts of paint chips and dust.

In a period of just fifteen days, children playing on equipment containing lead based paint can ingest 10 micrograms (twice the estimated safe limit) from dust and chip particles one-tenth of a square inch.

Exposure to even low levels of lead can cause IQ deficiencies, reading and learning disabilities, impaired hearing, reduced attention spans, hyperactivity and other behavior problems. Pregnant women poisoned by lead can transfer it to a developing fetus, resulting in adverse developmental effects.

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# Steps we can take to protect our children

The problems are large and pervasive. However, there are steps parents can take as individuals to reduce their children's exposures, as well as other steps parents need to take collectively. The following is a list of individual steps and collective action to begin the process of change.

## Our Children's Food



#### Breast Feeding

Breast feeding our children is important both for nutrition and psychological bonding between mother and child. Women should continue to breast-feed their children. However, there are some steps women can take to reduce the level of chemicals in breast milk.

- \* Express and discard milk between feedings if possible. Continue to express milk after weaning your child if you are thinking about having a second child. Each time you express milk, you are reducing your body's storage of chemicals.
- \* Expressing and discarding breast milk will reduce the amount of chemicals that would be transferred to your next child. Even if you are not planning to have additional children, it would be a good way to reduce your body's burden of chemicals and improve your own health.

Action Steps -

Many women are concerned about what is in their breast milk, but little if any information is available on contaminant levels, risks and guidance on what women should do. Women should write the EPA and their state health department and request that they provide guidance for breast feeding women. Additionally, there should be testing available at no cost or low cost to women who believe they have received high exposures to chemicals and are concerned about the safety of their breast milk. Women who have served in Vietnam or the Gulf War, women who live or lived near a toxic waste site or work in places where chemicals are present, and any woman who wants to know should have the ability to find out what chemicals, if any, are in their breast milk.

#### Table Foods

The best foods for your children are those that are low in animal fat. Most chemicals in our foods are stored in this fat. Giving your child low-fat or non-fat milk, dairy products and lean meats and fish reduces their intake of unwanted chemicals.



Buy or grow organic fruits and vegetables where possible. Use a brush to scrub all fruits and vegetables when you wash them to remove some of the pesticides residues and peel them where possible.

#### Action steps

Ask your supermarket to stock organic and natural food products like beans and pasta, not just fresh fruits and vegetables. Buy fruits and vegetables in season, as they are less likely to be imported, sometimes contaminated with U.S. banned chemicals. Read the label on food products you purchase for your family and if you don't understand an ingredient, call the 800 number that is on the label and ask what it is.

# Protecting Our Children's Immediate Environment

### Asthma Triggers

Try to eliminate a child's exposure to allergens and other irritants. Exposure to cigarette smoke, dust mites, cockroaches, pet dander, mildew and molds should all be managed.



Ventilation is needed in homes in order to prevent moisture and dust from collecting. Mattress and pillow casings are suggested to make them impermeable to dust mites. Bedding should be washed in extremely hot water (130 degrees) to kill mites as well. Dust mites thrive in carpets and heavy draperies, so these should be removed if possible.

#### Action steps -

More can be done than prevention in the home. For more information, please contact the American Lung Association at 1-800-586-4872 or the National Asthma Education Program at (301)951-3260. Education and prevention within the home are key, but you can also help to control the outdoor environment and clean up our air by organizing within your community.

### Pest Control

Don't use pesticides and other chemicals. There are other ways to control pests without the use of chemicals. Check with your child's school or day care center to see if they use chemical-based pest control.



Don't use pesticide-based insect repellent on your children.

More and more cases of poisoning are being documented from the use of these products. There are herbal and scent-based products on the market to protect children from insect bites without making them sick.

#### Action steps -

In the back of this book is a list of resources that you can call to ask about ways to handle your pest problems. You can call the National Pesticide Telecommunications Network at 1-800-858-7378 to find out what to do about pesticide poisoning. The National Campaign Against the Misuse of Pesticides can provide information on alternative methods for pest control in schools and homes. Their number and address is listed in the back of this book.

EPA has a booklet entitled: *Pest Control in the School Environment: Adopting Integrated Pest Management*. Obtain a copy of this booklet (the address is listed in the resources section) and give it to the Parent Teachers Association, the school or day care center's administrative/management staff and demand they stop using dangerous chemicals. There are several "Healthy Schools" efforts developed by concerned parents. Begin your own healthy schools program. One good model you'll find in the Resources Section is from New York.

### Lead in Homes

Many homes built before 1978 have lead-based paint somewhere. If you are purchasing a home that was built before that date, ask the seller about



lead in the paint. If you are going to undertake a renovation project in an older home, you should have a qualified inspector check the section of the home you plan to change before you begin.

You can call 1-800-490-LEAD for guidelines and information. Many homes have lead soldering in the water pipes which pose a hazard to children. Have someone check your pipes for lead soldering to be sure lead is not leaching into your drinking water or have your water tested for lead.

If you believe your child has been exposed to lead and want him/her tested, you should call your local, county or state health department.

#### & Action Steps -

Write the Alliance To End Childhood Lead Poisoning listed in the reference section to obtain information and provide a voice in their efforts to implement effective national prevention programs.

# Protecting Our Children's Air and Water

### Protecting Children's Air

You can place air filters on your heating and cooling units. But, at best, these devices can only protect your children while in the house, only when the filter is clean and only when the unit is on. No single unit can take all

contaminants out of the air. Filters only decrease the amount of air pollution that gets inside your house.

#### Action Steps -

Eliminating the sources of air pollution is not an action that you can accomplish by yourself. But you, alone, can begin to build the base upon which change can come. How? Begin to identify the sources of chemical discharges in your town.



Is there a hospital in your town? How does it manage its waste? If the hospital burns the wastes on-site, then you have a serious air contamination source.



Where does your trash go after you put it in the cans outside your home? Is the trash incinerated? You can find out by calling your city or county solid waste management department, which should be listed in your telephone book.

Remember, even if the incinerator is miles away, pollution travels great distances and gets into our children's air, water and bodies. How effective is your community recycling program?

After you have gathered the basic information and discovered an air pollution source, you need to begin to explain the need to eliminate that source to your neighbors, the parent teacher organizations, your religious leaders and others. Invite community organizational leaders to a meeting at your home or school to discuss how you can collectively address the problem. The Center For Health Environment and Justice can assist you in thinking through the meeting and who may want to come.

## Protecting Children's Water

You can buy a water filter to remove some chemicals. But these treatment units are complicated and you need to know what you want to remove before you can determine which unit is best for you.

This means you need to have your water tested. You also need to figure out when the unit or filter needs to be replaced. Most units collect or trap contaminants and, when these systems become saturated with chemicals, the filters need to be replaced in order to

maintain a clean water supply. Most whole house water treatment systems are expensive and, again, offer only limited protection.

#### Action Steps -

The best protection is to find the sources of contamination in your area and work with other parents to stop the release of chemicals into the environment. Parents nationwide are already doing this, and CHEJ can help you network with over 8,000 community based groups we work with nationwide. CHEJ can also help you establish such an organization in your area.



## Be a responsible consumer



One step we can all take is to be better consumers and to vote with our wallets. How do we do that? By demanding safe products that are manufactured in a safe, environmentally-friendly way.

Buy recycled and recyclable paper and products. This reduces the need to burn waste and creates a market for these products.

Purchase products that don't use chlorine in production. Ask for totally chlorine free or recycled chlorine free paper products.

Pass local purchasing policies for government and schools to use only chlorine free paper products. In this way, we can further stimulate the market demand for safe products.

Don't use toxic chemicals to clean your house or car. Non-toxic cleaning agents like baking soda, vinegar, oil soap and water clean safely and well.

If you see a "#3" or a "V" inside the recycle symbol on the bottom of a plastic bottle, don't purchase that product because the container is made with chlorine called polyvinyl chloride or PVC. Then call the toll-free phone number on the label and tell the manufacturer why you didn't purchase their product.



Buy pacifiers, bottles and other children's products that are made with a type of plastic other than PVC.

Request more shelf space for natural and organic food products in your grocery store. Look for organically grown, natural fiber clothing.

Serving more organic fruits and vegetables and eliminating the use of pesticides in your home will reduce your children's toxic exposure. So will living in a place where the air and water are relatively clean. But we cannot "lifestyle" our way out of this crisis.



# We can't lifestyle our way out of this crisis

The solution to protecting our children, our family and ourselves is to change the industrial practices that put toxic chemicals into our food, air, drinking water and soil in the first place.

President Clinton and Administrator Browner took a first step in acknowledging the crisis. Now the American people have to act and demand change - demand that our children be protected - and do so quickly. Change doesn't come just because it's the right thing to do.

There are powerful interests that will try to stop the President and the public from making the needed changes. It costs money to change production and to institute new waste management practices. But it also costs money for parents to take their children to the Emergency Room during asthma attacks and for governments to fund special educational classes for children who have learning difficulties. And the cost is far higher yet in needless suffering and the lost potential of human capital.

Nationwide Campaigns we can work on together to tackle the bigger problems.

### Stop Diotin Etposure Campaign

This is a nationwide campaign focused on eliminating all sources of dioxin discharges. The campaign is working with community organizations and coalitions to identify dioxin sources and with corporations, hospitals or municipalities to find products and methods for waste management that avoid incineration. To join, write or call Center for Health, Environment and Justice at P.O. Box 6806, Falls Church, VA 22040 (703) 237-2249. Visit our web page at http://www.essential.org/cchw or E-mail us at CCHW@essential.org

### Health Care Without Harm Campaign

This is a coalition effort organized to approach and work with health care institutions to stop the burning of waste which releases dioxin, mercury and other toxic substances into the environment. The coalition consists of physicians, nurses, organizations of health care providers, community based groups, and individual concerned



citizens. The goal is to get health care institutions to adopt non-incineration methods for disposing of their waste and to get these institutions to adopt purchasing policies that limit their purchase of products that create health and environmental threats. To get involved write or call Health Care Without Harm c/o CHEJ, P.O. Box 6806, Falls Church, VA 22040 (703) 237-2249. Visit our web page at http://www.essential.org/cchw or E-mail us at CCHW@essential.org

### CHEJ's Children and Environmental Health Project

CHEJ's Children's and Environmental Health Project promotes grassroots involvement in strengthening policies, practices and programs that protect children from exposure to environmental contamination. We are educating parents and others who are concerned about children's health and the environment through the media, the Internet and regional briefings. CHEJ's parent's guidebook (an expanded version of this primer) includes specific how-to information on the individual and collective actions people can take to protect children's environmental health.



A 30 minute slide show on children and environmental chemicals is also available from CHEJ for \$25 dollars. The slides are overhead transparencies with a prepared script. You can shorten the length of the presentation or just focus on certain environmental exposures by simply taking out a slide and that section of the script. The slide show is perfect for educating parents and other community members about the threats to children from environmental chemicals and how they can reduce or eliminate those threats.

CHEJ staff make targeted site visits to communities grappling with local environmental contamination that threatens children's health to help them define strategies around solutions and/or provide training in needed organizing skills. We also respond one-on-one to parents and activists who need help evaluating health risks to children from specific environmental exposures or identifying safer alternatives to specific products or practices.



### Resources

*Dying From Dioxin: Reclaiming Our Health and Rebuilding Democracy*, Lois Gibbs, South End Press. This book is written in lay terms and describes the toxicity of dioxin, the health impacts from exposure, the sources of exposure, how to identify dioxin sources in your community and how to organize a community effort to stop the poisoning of our children. Using this book, you can actually calculate the amount of dioxin you are likely to ingest from common foods. This book, published by South End Press, was written by Lois Marie Gibbs who fought from 1978-1980 to evacuate her 900-family community near the Love Canal dumpsite in Niagara Falls, New York. You can obtain a copy from CHEJ or through your local bookstore.

Love Canal: The Story Continues..., Lois Gibbs, New Society Publishers. Published in 1998, this book marks the 20<sup>th</sup> anniversary of the crisis at Love Canal. Love Canal first hit the headlines in 1978 as an entire community struggled with the fact that it was living on top of a toxic waste dump. Love Canal entered modern mythology as one of the most notorious environmental scandals in the world. Yet, 20 years later, homes at Love Canal have been resold. You can obtain a copy from CHEJ or through your local bookstore.

*Our Stolen Future*, Colborn, Dumanoski and Myers, Dalton Press, is another book that describes how chemicals get into the body, cross the placenta and impact the health of our unborn children and ourselves. This book can also be obtained through your local bookstore.

*Dioxin and Health*, Arnold Schecter, Plenum Press, is a more technical book that describes the interaction of dioxin and human health.

*Pesticides in the Diets of Infants and Children*, National Academy Press, examines what is known about exposures to pesticide residues in the diets of infants and children.

*IPM for Schools: A How-to Manual*, A Bio-Integral Resource Center Publication, looks at biological, cultural, physical, mechanical; educational, and chemical means to control pests at educational institutions through Integrated Pest Management programs.

*Raising Children Toxic Free*, Herbert Needleman, M.D., Philip Landrigan, M.D. defines the critical pollutants in today's environment and offers practical advice on how to reduce their effects at home and in the larger environment.

*The Green Pages*, Co-op America, 1612 K Street, N.W., #600, Washington, D.C. 20006. This guide lists many common non-toxic products which you can order through the mail. The cost of the guide is \$5.95.

Quantitative Estimation of the Entry of Dioxins, Furan and Hexachlorobenzene into the Great Lakes from Airborne and Waterborne Sources, study done by the Center For the Biology of Natural Systems, Queens College, Flushing, NY

#### The following are some organizations that can answer questions and put you in touch with others working collectively on issues and problems.

# Center For Health, Environment and Justice - P.O. Box 6806, Falls Church, VA 22040 (703) 237-2249 E-Mail CCHW@essential.org

Provides customized assistance to a growing network of 8,000 communities across the country who are faced with environmental threats. Undertakes national campaigns. Recent on-going campaigns include Stop Dioxin Exposure Campaign, building local and regional coalitions to eliminate dioxin discharges. CHEJ is a Health Care Without Harm co-coordinator, working in communities to get health care institutions to change the majority of their waste disposal practices from incineration and to change their purchasing policies to favor non-harmful products.

National Coalition Against the Misuse of Pesticides - 701 E Street, SE, Washington, D.C. 20003 (202) 543-5450

National Coalition Against the Misuse of Pesticides is working to prevent pesticide poisoning of our environment, homes, workplaces, schools, food and water through a practical information clearinghouse on toxic hazards and non-chemical pest control.

Mothers and Others For A Livable Planet - 40 West 20th Street, New York, NY 10011 (212) 727-4474

Mothers and Others is working to build public support to change the food production system in this country by reducing reliance on pesticides and to ensure a safer food supply. Mothers and Others was the organization which launched the successful campaign about alar in apples.

Alliance To End Childhood Lead Poisoning - 227 Massachusetts Avenue, NE, Suite 200, Washington, DC 20002 (202) 543-1147 www.aeclp.org

The Alliance is raising awareness and working to change perceptions about childhood lead poisoning and to develop and implement effective national prevention programs.

Greenpeace - 1436 U Street, NW, Washington, D.C. 20009 (202) 462-1177

www.greenpeace.org

Greenpeace has a nationwide campaign to eliminate chlorine usage and to stop the use of PVC plastics. Call to get more information and/or join the campaign.

Children's Environmental Health Network (CEHN) 5900 Hollis Street, Suite R3, Emeryville, CA 94608 (510) 597-1394 www.cehn.org

CEHN works to promote a healthy environment and to protect the fetus and the child from environmental hazards. The Network concentrates its work in three areas: education, research and policy.

# Children's Health Environmental Coalition (CHEC) - P.O. Box 846, Malibu, CA 90265 (310) 573-9608 www.checnet.org

CHEC is working with a coalition of organizations and researchers to encourage research on children's environmental disease, educate others about the links between childhood diseases and the environment and to push for strong policies toward prevention.

Healthy Schools Network - 96 South Swan Street, Albany, NY 12210 (518) 462-0632

Healthy Schools Network has developed a great model for talking with school administrators, defining alternatives to toxics in the school building and engaging parents in the issue.

National Parents Teachers Association - 330 N. Wabash Avenue, Suite 2100, Chicago, IL 60611-3690 (312) 670-6782

The national headquarters of the PTA has worked to provide a safe place for children to play and learn. The PTA has passed a number of progressive environmental statements and resolutions to protect children everywhere.

Natural Resources Defense Council, Children's Environmental Health Initiative -71 Stevenson Street, San Francisco, CA 94105 (415) 777-0220 www.nrdc.org NRDC has several great publications on children's environmental health threats and steps

that people can take to protect children.

#### Government offices where you can write and voice your concerns:

The White House

1600 Pennsylvania Avenue, Washington, DC 20500 (202) 456-1111 comment line - (202) 456-2461 Fax Or E-Mail - President@whitehouse.gov

#### Your Elected Representatives

Call your state and federal representatives, listed in your local telephone book. To call Washington to talk with your federal representatives, you can obtain their number by calling (202) 224-3121 for Congressional information.

Environmental Protection Agency (EPA) Headquarters Environmental Protection Agency, Carol Browner, Administrator, 401 M Street, S.W. Washington, DC 20460

EPA Office of Children's Health Protection, Liz Blackburn, 401 M Street, SW, Mail Code 1102, Washington, DC 20460 (202) 260-7778 Web: http://www.epa.gov/children