

and in some consumer products is often greater than most adult's exposure to these items.

As children grow and develop, they have many "windows of vulnerability." Even before a baby is conceived, men and women should avoid exposure to substances that might harm the sperm or egg. Vulnerability continues during pregnancy, throughout childhood and to the end of adolescence, as the brain, lungs and reproductive system are still developing until adulthood.

## Health Concerns

Scientific research reveals that several health conditions in children are related to effects from environmental pollution. It is a complex field to study and much remains to be learned, but clear links are emerging.

Indoor and outdoor air pollution, for example, are clearly linked to childhood asthma and other breathing problems. For children in Canada, asthma is the most common reason for being in hospital or missing school. Substances such as lead, methylmercury, PCBs, nicotine, dioxins, solvents and some pesticides, are known to harm children's brains, even at the relatively low doses that can be commonly encountered in everyday life. Many more substances, such as flame retardants (or PBDEs), are suspected, but our knowledge of these risks is limited. At the same time, more children in Canada are experiencing learning and behaviour problems that may be linked to chemical exposures, but



our understanding of environmental influences on children's brains requires more research.

Toxic substances tend to be associated with many different health effects. For example, air pollution is linked with asthma as well as low birth weight and some birth defects. Many pesticides are linked to increased risk of cancer and effects on the brain and lungs, as well as birth defects and other negative effects on reproduction. Lead, dioxins, PCBs, ionizing radiation and ultraviolet (UV) radiation are also known to contribute to multiple health effects at higher levels, but may be affecting children at much lower levels, either singularly or in combination.

In the face of uncertain, but potentially serious risks, we need to take precautionary action.

## Protecting Children is a Shared Responsibility!

Children need clean air to breathe, safe water to drink, healthy food to eat and safe products to use. As adults, we must take action to create healthy environments for children to grow, learn and play. It is our duty to be proactive in protecting our children — after all, they depend on us to keep them safe.

Together, we can make a difference! Here are some other things that we can all do:

- Apply these childproofing suggestions in *our communities*, as consumers, and in early learning or child care centres, schools and playgrounds.
- Ask stores to carry non-toxic products.
- Ask your local, provincial and national government representatives to put policies and

laws in place that protect children's health from environmental hazards (for example, a municipal by-law to restrict the cosmetic use of pesticides).

- Encourage business and industry to use non-toxic substances throughout their production processes and in their products.
- We can all contribute to a healthier environment by reducing electricity use, walking instead of driving, supporting measures to curb urban sprawl and expanding public transit.

To learn more about what communities and governments can do to protect children's health, and for more details on things that you can do, see *Child Health and the Environment — A Primer*, available at [www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca).

The **Canadian Partnership for Children's Health and Environment (CPCHE)** is a group of organizations that have been working together since 2001 to protect children's health from environmental exposures and toxic chemicals. We do this by raising awareness of children's environmental health issues among decision-makers, service provider organizations, individual practitioners, parents and the public. Learn more at [www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca).

### CPCHE PARTNERS



CPCHE would like to acknowledge and thank the **Laidlaw Foundation** and the **Ontario Trillium Foundation** for their ongoing and generous support of CPCHE's overall work and mandate.



For more information contact:



# PLAYING IT SAFE: Childproofing for Environmental Health

[www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca)



**H**uman activities have created dramatic changes in our environment. Our children grow up in a world where the air is polluted, the ozone layer is damaged and the climate is changing. Every day, from the beginning of their lives, children in Canada are exposed to potentially hazardous substances where they live, learn and play. While the exposure to individual contaminants may be small, the total exposure to many potentially harmful pollutants over a child's lifetime is of concern.

The best way to protect children is to reduce or eliminate as many known or suspected contaminants as possible from our air, water, soil, food and products. This will take time and must involve individuals, families, communities, business and all levels of government. At the same time, parents and caregivers can do many things to better protect children in their homes, schools and communities. This brochure and other resources available through the **Canadian Partnership for Children's Health and the Environment** — [www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca) can tell you how you can help.

When it comes to our children, it is **better to be safe than sorry**. We can all take action to protect children from being exposed to harmful pollutants. We can do this by "**childproofing**" our homes, schools and communities for environmental health. Action is needed before children are conceived, as they grow and during all life stages until they become adults.



## Children Are at Greater Risk than Adults

Children are growing and developing, and are uniquely vulnerable to environmental contaminants. Relative to their body size, children breathe, eat and drink more than adults. This means that a child's body will take in and absorb more contaminants.

Children also behave differently. Infants, toddlers and young children explore the world with their hands and mouths. Therefore, their exposure to contaminants in soil and house dust, on indoor and outdoor surfaces,



**There are many things that we can do to protect our children!** The following chart provides some childproofing tips and suggestions to create a healthier environment for our children. Some of these tips are intended for certain life stages; however, most should be used for children of all ages. To learn more about what you can do, visit [www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca).

When

Why

What You Can Do

When

Why

What You Can Do

Before Conception	During Pregnancy	While Cleaning	While Feeding	While Playing	While Renovating/Decorating
<p>Before pregnancy, the health of both parents is important to a child's health at birth and throughout the child's whole life. All the eggs a woman will release during her lifetime are created while she is still in the womb. It is therefore possible for a woman's eggs to be affected by substances encountered by her own mother during pregnancy.</p>	<p>Pregnancy is considered the most vulnerable time in child development. Many contaminants can easily cross the placenta and reach the fetus. This makes it very important to avoid potentially toxic exposures while pregnant.</p>	<p>Children spend over 80 per cent of their time indoors. Contaminants can be tracked inside from outdoors and can originate from many sources inside the home. Most of these contaminants end up in indoor air and house dust.</p>	<p>Everyone is exposed to trace levels of contaminants in food. Breast milk can also contain small amounts of contaminants. However, health experts strongly agree that breast milk is the healthiest food for babies.</p>	<p>Children need to play. Outdoors, this requires protection from too much sun and smog. Special care is needed using insect repellents. Indoors, toxic substances may be found in toys, craft supplies, inexpensive jewellery and other products.</p>	<p>Renovation dust can contain high levels of lead, asbestos and other toxic contaminants. Renovation and decorating products, such as solvents, paints and glues, can contain strong chemicals. New building materials, furnishings and rugs may release volatile organic compounds (VOCs).</p>
<ul style="list-style-type: none"> <li>Some toxic substances build up in animal fat, in some fish, and in our bodies. Eat a healthy diet low in animal fats and follow <i>fish advisories</i> to reduce your risk.</li> <li>Fish are nutritious. However, be aware that some fish contain methylmercury. Children under 15, pregnant women and women of child-bearing age should limit their intake of certain fish.</li> <li>Fish lower in mercury can be eaten twice a week and include shrimp, salmon, tilapia, pollock, catfish, "light" canned tuna, farmed trout, haddock, flounder, canned sardines and breaded fish cakes or sticks.</li> <li>Fish high in mercury include swordfish, tilefish, marlin, shark, king mackerel, fresh or frozen tuna and canned "white"/ albacore tuna. To play it safe, avoid eating these fish or eat them only rarely (less than one meal per month).</li> <li>Sperm are formed continuously and may be harmed by lead, pesticides and other contaminants.</li> </ul> 	<ul style="list-style-type: none"> <li>Pregnant women and children should not participate in renovations. Avoid renovation dust, oil paints, solvents, varnishes, glues, degreasers and paint strippers.</li> <li>Pregnant and breastfeeding women should strictly limit their intake of fish high in mercury.</li> <li>Consider choosing organic foods whenever possible.</li> <li>Choose non-toxic pest control methods when possible.</li> <li>Avoid dental x-rays and replacement of mercury fillings while pregnant if possible.</li> <li>For new or replacement dental fillings, ask about alternatives to mercury.</li> <li>Ask smokers not to smoke indoors.</li> </ul> 	<ul style="list-style-type: none"> <li>Wash hands often.</li> <li>Take your shoes off at the door. Use washable entrance mats (wash separately from other laundry).</li> <li>Use a wet rag to remove dust and wash these rags separately.</li> <li>Vacuum rugs and floors with a powerhead weekly (twice a week in homes with a crawling child). Carefully dispose of vacuum bags and dryer lint in the garbage. Do not compost.</li> <li>Choose "green" cleaning products made with non-toxic ingredients.</li> <li>Avoid using aerosol sprays when possible.</li> <li>Discard old foam items (flame retardants in foam build up in house dust).</li> <li>Don't burn garbage, especially plastics and treated wood.</li> <li>If you work with chemicals or in construction/renovation shower when you get home and wash work clothes separately.</li> </ul>	<ul style="list-style-type: none"> <li>Breastfeed your baby. Breast is best!</li> <li>Eat a healthy diet with lots of whole grains, fruits and vegetables.</li> <li>Choose low-fat meats and dairy, and low-mercury fish.</li> <li>Choose a variety of organic and/or unprocessed foods when you can, particularly those foods that your child eats often.</li> <li>Avoid heating food or drinks in plastic containers (including baby bottles) or covering items with plastic wrap, particularly when using the microwave. Use glass containers instead.</li> <li>Don't use leaded crystal or lead-glazed pottery for storing or serving food and drinks.</li> <li>Choose glass or ceramic storage containers to store your food.</li> <li>Avoid cooking at high heat in non-stick pans to avoid chemicals being released from the non-stick coating.</li> <li>Discard burnt food, especially from the BBQ, as it contains cancer-causing chemicals.</li> </ul> 	<ul style="list-style-type: none"> <li>Try to keep children out of the sun between 11am and 4pm. To play it safe, stay in the shade and wear hats and protective clothing.</li> <li>While outdoors during periods of high heat and smog, reduce strenuous activity, especially during afternoon rush hour, drink lots of water and rest frequently.</li> <li>Follow label instructions carefully if using any insect repellent.</li> <li>Apply a penetrating wood sealant (not paint) annually to treat fences, picnic tables and play structures built with pressure-treated wood bought before January 2004.</li> <li>Wash children's hands after they play on any pressure-treated wood structures.</li> <li>Use non-toxic arts and crafts products and follow label instructions.</li> <li>Avoid soft vinyl toys, especially those for teething babies.</li> <li>Discourage children from using nail polish, nail polish remover, cosmetics and hair dyes.</li> <li>Discard metal toys, jewellery, key chains or decorations that are dull grey, heavy for their size and easily "draw" a grey line. They can contain dangerous levels of lead.</li> <li>Discourage children and teens from extended use of cell phones to reduce their exposure to radio waves.</li> </ul>	<ul style="list-style-type: none"> <li>Do not involve pregnant women or children in any renovation activities.</li> <li>Inform yourself about risks from leaded paint and asbestos in pre-1980 homes.</li> <li>Closely follow safety guidelines on labels to protect yourself and your family.</li> <li>Never sand old painted surfaces.</li> <li>Isolate renovation areas from the rest of the house.</li> <li>Vacuum frequently to remove dust and ventilate areas where solvents or glues are used.</li> <li>Plan to renovate in summer when you can open windows.</li> <li>Seal-off heating/cooling vents during all renovations.</li> <li>Choose less toxic products, such as low-VOC paints, finishes and adhesives. Try to avoid products with hazard symbols.</li> <li>Keep work clothes and shoes separate from other clothes. Wash work clothes separately.</li> <li>Don't burn renovation waste that contains painted or varnished surfaces, pressure-treated wood or synthetic materials, such as old flooring or roofing materials.</li> </ul> 