Why Children are at Special Risk

Children are uniquely vulnerable to toxic exposures due to a number of factors. Their immature organs and developing bodies make it more difficult for them to detoxify or eliminate certain toxins, and because of their size, they receive proportionally greater doses of chemical contaminants found in air, water and food. Even a small exposure occurring during a critical window of a child's development could result in permanent adverse health outcomes.

Children are also at greater risk because of their play habits and typical hand-to-mouth behavior. They live in their environments in ways adults do not. For example, they play outdoors on the grass where pesticides may have been applied and inside on carpeting where pesticides and other indoor chemical contaminants accumulate.

Routes of Exposure

Inhalation – breathing in fumes or airborne contaminants.

Skin Absorption – touching contaminated surfaces or chemicals with hands or other exposed body surfaces, or applying personal care products.

Ingestion – accidentally swallowing harmful chemicals that may have contaminated hands or objects, or eating foods with pesticide residues.

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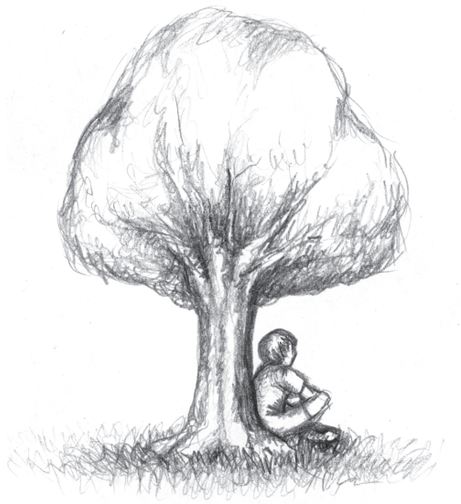
Protecting Your Child's Health

Avoiding Toxic
Environmental Exposures



- *The incidence of hormone disruption and childhood cancers is increasing.*
- *Asthma affects nearly one in seven school-aged children.*
- *Developmental and learning disabilities are being diagnosed in unprecedented numbers.*

What is causing this disturbing rise in the incidence of chronic childhood illnesses and disabilities? A growing body of scientific research suggests that exposure to common chemicals in our homes, schools and communities may play a significant role.

1. Pesticides – Some of the most commonly used pesticide products are associated with both acute and chronic health problems in children, including poisoning, asthma, neurological problems and certain cancers. These products include no-pest strips, indoor pest control sprays, lawn chemicals and flea and tick products. If you have a pest problem, look for safe, non-toxic alternatives or choose a professional landscaper or exterminator that uses non-toxic treatments.

2. Food – Pesticide residues on fruits and vegetables are another significant source of pesticide exposure for children. According to EWG's Shoppers Guide, produce with the highest levels of pesticide residues include apples, celery, cherry tomatoes, cucumbers, grapes, nectarines, peaches, potatoes, snap peas, spinach, strawberries, sweet bell peppers, hot peppers, and kale. Whenever you can, purchase certified organic produce, especially those fruits and vegetables that your children eat most often. Most conventional dairy, poultry and meat products contain residues of artificial hormones and antibiotics which may interfere with a child's normal development and contribute to antibiotic resistance. Buy certified organic, grass-fed animal products whenever possible.

3. Personal Care Products – There are hundreds of chemicals in the products we use to soften, scent, powder and clean our children's sensitive bodies, many of which are linked to human health problems. Until we have adequate testing and regulation of these chemicals, you should always look for simple, organic, bio-based products with the fewest ingredients. Certified organic products, whose

manufacturers provide full disclosure of ingredients, are usually good choices. Avoid antibacterial products, especially those containing the pesticide triclosan. Most pediatricians agree that washing with soap and warm water is just as effective as using an antibacterial product in preventing the spread of disease.

4. Household Cleaning Products – Many popular household cleaning and laundry products contain toxic chemicals that can affect your child's health. Skin rashes, eye irritation, respiratory and neurological problems and hormonal disturbances have been linked to popular brands of kitchen, bathroom and laundry room products. Choose products that are labeled non-toxic, bio-based and unscented or make your own from simple, safe ingredients like lemon juice, baking soda, white vinegar, and borax.

5. Air Fresheners and Candles – Artificially scented air fresheners and candles are made from a complex mixture of petroleum-based chemicals, including many that are classified as hazardous by the EPA. Along with scented cleaning products, they pollute indoor air and can leave a residue on surfaces throughout your house. Regular cleaning with unscented products and good air circulation is the best way to keep your house smelling fresh. Choosing 100% beeswax candles is a way to enjoy the atmosphere candles create without the chemical risks.

6. Carpeting – New synthetic carpets, along with their padding and adhesives, emit toxic volatile organic compounds (VOCs), including formaldehyde, that can outgas for weeks or even months in your home. Keep windows open and do not allow children to sleep or play in newly carpeted rooms until the smell has completely disappeared. Better yet, choose safer choices for floor coverings, including organic wool and cotton carpeting or other natural floor surfaces, such as wood, bamboo, tile or cork.

7. Paints and Stains – Paints and stains also contain VOCs that create toxic fumes that can outgas indoors for long periods of time. Fortunately, the major paint brands now offer no-VOC paints in a full range of colors that are much safer. Floor finishes are also available in low-VOC versions. Schedule projects during the warmer months when you can open windows to provide ventilation and do not allow children to sleep or play in newly painted rooms until the smell has completely disappeared. Your safest choices are milk paint and food-grade oils and finishes for wood.

8. Plastics – Many popular toys and home products (including dolls, balls, plastic food wrap and shower curtains) are made of a chlorinated plastic called polyvinyl chloride (PVC), bearing the #3 recycling code. PVC, the most toxic plastic from its production to disposal, contains chemicals that carry significant health risks when inhaled or ingested. Other plastics may also leach harmful chemicals into food. Those to avoid include polyethylene terephthalate (PETE) (recycling code #1), polystyrene (Styrofoam) (recycling code #6) and polycarbonate (formulated with BPA or BPS) (recycling code #7). Choose non-plastic toys or plastic toys made from polyethylene or polypropylene. Silicone is the safest material for baby bottle nipples and teethers.

Plastic containers for cooking and storing food should be replaced with glass, stainless steel or lead-free ceramic. Do not microwave food or baby formula in plastic containers, as this increases the potential for leaching of plasticizing chemicals.

9. Art Materials – Oil paints, pastels, permanent or scented markers, rubber cement, spray adhesives and pottery or ceramic supplies are some examples of materials that may contain substances that pose a health risk to your child. When purchasing art materials for home use, choose only those labeled "non-toxic." Make sure your child washes his or her hands after using any art materials.

10. Treated Wooden Playground Equipment and Outdoor Furniture – Wood that has been treated with chromated copper arsenate (CCA) to protect it from rotting or insect damage is frequently used as construction material for playgrounds and outdoor furniture. Arsenic, a component of CCA, is a known human carcinogen, and can be absorbed through the skin or accidentally ingested when it is transferred to your child's hands. Test kits are available or you can look for the telltale "greenish" color of CCA-treated wood for quick identification. The soil around treated wood structures may also be contaminated. Look for metal playgrounds or those made from untreated cedar or plastic.

11. Water – Virtually all water supplies today are vulnerable to contamination. If you are uncertain about the purity of your water, have it tested. Filtering you own water at home and transporting it in a reusable glass or stainless steel bottle is your best assurance of safety. Reverse osmosis, distillation or structured matrix purifying systems combined with a whole house filter are effective at removing most pollutants. Bottled water in plastic is not a good alternative as the quality of the water is uncertain and the plastic itself may leach chemicals.

12. Wireless Devices – According to manufacturers' instructions and emerging scientific studies on the potential health impacts of microwave radiation, your child should never hold a cell phone directly against his or her head. Instruct your child to use the speaker setting or a corded headset whenever possible. Corded headsets utilizing an air tube are considered the most protective. Please note that cordless phones carry the same risks as cell phones. If you have a wi-fi router in your home, turn it off when not in use or at night. To further limit exposure, switch laptops and tablets to airplane mode, which eliminates most of the radiation.

For more information about these and other environmental exposures, please visit:

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