

## Pediatric Environmental Health

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Few would dispute that children are our most precious resource. Healthy children will grow into healthy adults, so ensuring the optimal health of this new generation is critical for both their and our well-being as well as essential for our society's future. Sadly, a growing number of children are suffering from environmental health issues. Fortunately, these issues can be addressed in clinical practice using age-old tools of education, prevention, environmental awareness, and, if necessary, treatment.

Children's toxicity is best addressed in the context of families, communities, and environments. Today, children are living in vastly more complicated environments than previous generations due to rapid advances in technology, information, and population. These developments have led to increases in chemical production, distribution, and use. Currently, more than 70 000 chemicals are permitted for use in the United States even though little is known about the long-term impacts these products have on our children.<sup>1</sup>

The Children's Environmental Health Network said it best when claiming, "Children are not just 'little adults' when it comes to environmental exposure!"<sup>2</sup> Pound for pound, children consume more food and water and breathe more air than adults, magnifying their exposure to environmental chemicals. By nature, children live and play closer to the sources of toxic chemicals accumulation: floors, carpets, and soil. In addition, environmental toxins have significantly greater impact on childhood health due to the stages of growth and development they are experiencing. Exposure to lead, mercury, air pollution, and pesticides, as well as to other environmental toxins, has been linked to neurodevelopmental disorders, respiratory illnesses, immune dysfunction, and cancer.<sup>2,3</sup>

The key to protecting children is education and prevention. Teleosis Institute highly recommends Physicians for Social Responsibility's Pediatric Environmental Toolkit (available at <http://psr.igc.org/ped-toolkit-materials.htm>) to learn more and receive user-friendly health education materials on preventing exposure to toxic chemicals and other substances that affect infant and child health. An effective first step is always to conduct a thorough environmental health history of your patient.

As a sidebar on page 43, we include different ways your patients can decrease the toxic load on children.

For more information about the Teleosis Institute, please visit [www.teleosis.org](http://www.teleosis.org).

### Resources

- ▶ **Children's Environmental Health Network**  
<http://www.cehn.org/>
- ▶ **The Deirdre Imus Environmental Center for Pediatric Oncology** <http://www.dienviro.com/>
- ▶ **Environmental Working Group** (for a chemical index)  
<http://www.ewg.org/chemindex/list>
- ▶ **Integrative Pediatrics Council**  
<http://www.integrativepeds.org/>
- ▶ **National Environmental Education Foundation Pediatric Environmental History Initiative**  
<http://www.neefusa.org/health/PEHI/index.htm>
- ▶ **National Resources Defense Council** (to determine mercury contamination in fish)  
<http://www.nrdc.org/health/effects/mercury/guide.asp>
- ▶ **The Pediatric Environmental Health Toolkit for Primary Health Care Providers and Patients by Physicians for Social Responsibility**  
[www.psr.org](http://www.psr.org)

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### References

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3. Rosen LD, Imus D. Environmental injustice: children's health disparities and the role of the environment. *Explore (NY)*. 2007;3(5):524-528.
4. No authors listed. *Out of Harm's Way: Preventing Threats to Child Development*. Cambridge, MA: Greater Boston Physicians for Social Responsibility; 2002. Available at: [psr.igc.org/CHeasyeng6pg.10.18.pdf](http://psr.igc.org/CHeasyeng6pg.10.18.pdf). Accessed August 11, 2008.



## **For Your Patients**

### **Tips to Help Create a Safer Environment for Children<sup>4</sup>**

#### **1. Reduce Risks From Pesticides**

- ▶ Peel or wash nonorganic fruits and vegetables.
- ▶ When possible, buy organic foods that were grown without pesticides.
- ▶ Do not use pesticides (or noxious mosquito repellants such as DEET) on children. Check shampoos, soaps, and lotions for toxic ingredients.\*
- ▶ Use nontoxic methods, such as trapping, to get rid of unwanted pests in your home.
- ▶ Do not use pesticides on your pets. Keep ticks and fleas off by cleaning and brushing your pets regularly.

#### **2. Reduce Risks From Lead**

- ▶ Have children take a blood test to determine lead levels, especially if they live in a house built before 1960.
- ▶ Avoid contact with lead paint. Have paint in your house checked for lead. Remove, cover, or seal lead paint.
- ▶ Do not use products that say on the label that they contain lead—eg, candles, hair dyes, and pottery.\*
- ▶ Avoid lead in drinking water by running water for a minute or two before drinking. Lead was used in pipes until 1986 and is still used in some faucets. Also, always use cold water for drinking or baby formula. Running water until it is cold has the action of “flushing” lead. Hot water is likely to contain higher levels of lead.
- ▶ Have the dirt in your yard tested for lead. Do not grow vegetables or other foods or let children play in soil that has tested positive for lead.

#### **3. Reduce Risks From Mercury**

- ▶ Consume minimal amounts of fish that may be high in mercury. Often bigger fish such as king mackerel, shark, swordfish, tilefish, and tuna contain higher levels of mercury. For a guide to mercury contamination in fish, visit the National Resources Defense Council website (<http://www.nrdc.org/health/effects/mercury/guide.asp>).
- ▶ Use digital rather than mercury thermometers. Do not throw out your mercury thermometers. Call your city or county health department to find out how to dispose of mercury safely.

#### **4. Reduce Risks From Toxic Household Products**

- ▶ Avoid using cleaning products such as antibacterial soaps, bleach, ammonia, and air fresheners that often contain toxic ingredients.
- ▶ Use cleaning products that contain nontoxic ingredients or make your own cleaning solutions using baking soda or vinegar.
- ▶ Use scrubbing pads and brushes to eliminate the need for toxic cleaners.

\*A chemical index can be found at: Environmental Working Group (<http://www.ewg.org/chemindex/list>).