

# Pesticides Fact Sheet

We know PESTICIDES kill tiny pests. So what can they do to tiny people?

We're learning pesticides can impact children's health...but how?

Pesticides are poisons that are meant to kill pests such as rodents and insects as well as weeds and fungi. Many common pesticides contain potent chemicals called neurotoxins that can impact the nervous system and brain. Studies suggest that this is true not only for pests, but for humans as well. In fact, exposures to pesticides have been linked to learning, behavioral, and developmental disabilities.<sup>1</sup>

Because children are still growing, their nervous systems and brains are more vulnerable to toxic chemicals. Children also receive a greater relative exposure to pesticides than adults because they play on floors and on the ground, put their hands in their mouths frequently, and eat more fruits and vegetables per pound of body weight.<sup>2</sup> In addition to impacting brain development, recent scientific studies suggest that pesticides are linked to immune system problems, making people more vulnerable to disease,<sup>3</sup> and to reproductive disorders.<sup>4</sup> Acute pesticide poisoning can also create many health problems.<sup>5</sup>

## How are children exposed to pesticides?

Huge amounts of pesticides are used to control pests. In 2001, more than 1.2 billion pounds of the active ingredients in pesticides were used in the United States.<sup>6</sup> These pesticides were sprayed or applied in these places:

- On land: agricultural fields, golf courses, sports fields, playgrounds, roadsides, gardens and lawns.
- At home: professional exterminations and carpet treatments, flea sprays and dips for dogs and cats.
- Inside schools and community buildings: professional exterminations and carpet treatments, pressure-treated (CCA) lumber.
- On bodies: head lice treatments, insect and tick repellants.
- On food: during cultivation on farms as well as after harvesting to deter fungal growth during shipping.

Many pesticides build up in body tissue over time, so milk and meat from livestock which are fed pesticide-treated crops can also contain pesticides.<sup>7</sup> Even more concerning, fetuses and infants are exposed to the pesticides that have built up in their mother's bodies. Both amniotic fluid<sup>8</sup> and breast milk<sup>9</sup> contain pesticides that are passed on to the fetus and infant. That said, please know that it is still better for many good health reasons to breastfeed your baby!

During spraying on crops and gardens and in homes, substantial amounts of pesticides can drift into nearby "off-target" areas, such as residential areas, water supplies, home gardens and playgrounds.<sup>10</sup> Children, pets and wildlife that use these contaminated areas are exposed directly. Pesticides can remain on shoes and feet and

be carried into the house, where residues will contaminate carpets and other surfaces and mix with house dust. Another common source of exposure is household supplies of pesticides. In 2002, an estimated 69,000 children were exposed to or poisoned by common household pesticides in the United States.<sup>5</sup>

### How can you reduce your child's risk of exposure?

- Always wash fruits and vegetables.<sup>11</sup> Even after washing and cooking foods, pesticide residues may remain, so peel fruits and vegetables when possible, too. Buy organically grown produce whenever you can, especially those foods most likely to contain chemical residues: nectarines, peaches, strawberries, raspberries, apples, pears, celery, spinach, bell peppers, potatoes, and imported grapes.<sup>12</sup> Though organic foods can be more expensive, it can be less costly to keep your children healthy now than to have to pay for health services later. Ask your grocer to purchase from organic farmers to help make organic food available for all.
- Wipe shoes on doormats and leave them at the door to avoid tracking in pesticide residues.
- Control dust which can also contain pesticide residues in your home. Vacuum regularly with a HEPA filter vacuum. Use damp dust rags instead of feather dusters which stir up dust and disperse it into the air. Avoid all use of pesticides on the lawn and garden and in the house. There are safer alternatives for every use of chemical pesticides, such as Integrated Pest Management (IPM) for your home and garden. Avoid lindane, a pesticide in head lice treatments for children. Visit [www.beyondpesticides.org/alternatives/](http://www.beyondpesticides.org/alternatives/)
- Prevent household pests naturally by removing their sources of food, water, and shelter. Fix leaky plumbing and prevent wet spots inside and outside your home, wipe up food residues on countertops, seal pet food containers, keep garbage sealed, rinse recyclable containers, remove woodpiles from around or inside your home, repair door and window screens, and remove diseased plants and fallen fruit that may attract pests to your garden.
- Lock pesticides away from children's reach If you do store them at home. Keep toxics in the original containers and follow all warning label directions.
- Talk to neighbors, schools, businesses, and government officials about reducing pesticide use on playgrounds, lawns, roadsides and public areas. There are alternatives!

For more information or for other Practice Prevention columns, visit the Institute for Children's Environmental Health online at [www.iceh.org](http://www.iceh.org) or call 360-331-7904.

<sup>1</sup> Schettler T, Stein J, Reich F, Valenti M, Wallinga D. In Harm's Way: Toxic Threats to Child Development.

<sup>2</sup> Cambridge, MA: Greater Boston Physicians for Social Responsibility, 2000, p. 80-85. U.S. Environmental Protection Agency, Pesticides and Food: Why Children May be Especially Sensitive to Pesticides, [www.epa.gov/pesticides/food/pest.htm](http://www.epa.gov/pesticides/food/pest.htm), viewed 1/27/2005.

<sup>3</sup> World Resources Institute. Pesticides and the immune system: The public health risks, viewed 1/27/2005.

<sup>4</sup> Tremain, K Hopping Mad: A frog biologist battles an

<sup>5</sup> agrichemical giant. Sierra Magazine. [www.sierraclub.org/sierra/200407/profile.asp](http://www.sierraclub.org/sierra/200407/profile.asp), viewed 1/31/2005. U.S. Environmental Protection Agency, Pesticides and Child Safety, [www.epa.gov/pesticides/factsheets/childsaf.htm](http://www.epa.gov/pesticides/factsheets/childsaf.htm), viewed 1/31/2005.

<sup>6</sup> U.S. Environmental Protection Agency, 2000-2001 Pesticide Market Estimates: Historical Data. [www.epa.gov/oppbead1/pestsales/01pestsales/historical\\_data2001\\_3.html](http://www.epa.gov/oppbead1/pestsales/01pestsales/historical_data2001_3.html), viewed 1/31/2005.

<sup>7</sup> <sup>8</sup> U.S. Environmental Protection Agency, Protecting The Public From Pesticide Residues In Food, [www.epa.gov/pesticides/factsheets/protect.htm](http://www.epa.gov/pesticides/factsheets/protect.htm), viewed 1/31/2005 Bradman A, Barr DB, Claus Henn BG, Drumheller T, Curry C, and Eskenazi B. Measurement of pesticides and other toxicants in amniotic fluid as a potential biomarker of prenatal exposure: A validation study. Environmental Health Perspectives. 2003;111:1779-1782.

<sup>9</sup> Heifetz RM and Taylor SS. Mother's milk or mother's poison? Pesticides in breast milk. Journal of Pesticide Reform. Fall 1989;9(3). [www.eap.mcgill.ca/MagRack/JPR/JPR\\_07.htm](http://www.eap.mcgill.ca/MagRack/JPR/JPR_07.htm), viewed 1/31/2005.

<sup>10</sup> U.S. Environmental Protection Agency, Spray Drift of Pesticides, [www.epa.gov/pesticides/factsheets/spraydrift.htm](http://www.epa.gov/pesticides/factsheets/spraydrift.htm), viewed 1/31/2005.

<sup>11</sup> Groth E, Benbrook CM, Lutz K. Do you know what you're eating? An analysis of U.S. government data on pesticide residues in foods. Consumer's Union, [www.consumersunion.org/food/do\\_you\\_know2.htm](http://www.consumersunion.org/food/do_you_know2.htm), viewed 1/31/2005.

<sup>12</sup> The Environmental Working Group, Report Card: Pesticides in Produce, [www.foodnews.org/reportcard.php](http://www.foodnews.org/reportcard.php), viewed 1/31/2005.

Find out more about pesticides

[www.sustainabletable.org](http://www.sustainabletable.org) [www.checnet.org](http://www.checnet.org) [www.beyondpesticides.org](http://www.beyondpesticides.org)  
[www.watoxics.org/pages/root.aspx](http://www.watoxics.org/pages/root.aspx) [www.panna.org](http://www.panna.org)

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