



US EPA 2005  
Children's Environmental Health  
Excellence Award



Healthy Home  
Healthy Child



Columbia Center for Children's Environmental Health  
Mailman School of Public Health  
Columbia University  
100 Haven Avenue, Tower III, Suite 25F  
New York, NY 10032

FOLD

## RESOURCE CORNER

### CCCEH Research Workers

Franchesca Arias, 646-459-9605  
Didi Diaz, 646-459-9608  
Beatriz Plaza, 646-459-9607  
Andria Reyes, 646-459-9606  
Marilyn Reyes, 646-459-9611

### Low-toxicity Cleaning Products

#### Effective general household cleaners:

soap, water, baking soda, vinegar, and lemon juice mixed with Borax—use a coarse sponge and scrub hard.

#### Recommended cleaning brands:

BioShield, 800-621-2591 ([www.bioshieldpaint.com](http://www.bioshieldpaint.com))  
Dr. Bronner, 760-743-2211 ([www.drbronner.com](http://www.drbronner.com))  
Ecover, 800-449-4925 ([www.ecover.com](http://www.ecover.com))  
Seventh Generation ([www.seventhgeneration.com](http://www.seventhgeneration.com))

### Low-toxicity Pest Control Products

#### For cockroaches:

**gels** (recommended brand, *Maxforce*)  
**pheromone traps** (recommended brand, *Victor*)  
**bait and sticky traps** (recommended brand, *Combat*)  
**boric acid powder** (blow into cracks with hair dryer, then caulk)

**Borax & sugar mixture** sprinkled on roach trails

**Epsom salts** sprinkled on roach trails

#### For mice:

#### bait stations, snap or glue traps

Find a wide variety of traps and other non-toxic rodent pest control products at: [www.victorpest.com/mouse\\_rat\\_home](http://www.victorpest.com/mouse_rat_home)

**FOLLOW ALL DIRECTIONS ON PRODUCT LABELS**

Find professionals using Integrated Pest Management (IPM):  
<http://www.beyondpesticides.org/infoservices/pcos>

For more information on using pesticides safely at home, visit [www.cdpr.ca.gov](http://www.cdpr.ca.gov) for tips on how to read a pesticide label & protect children.

### Developmental Evaluations

For a complete evaluation of your child's development call the **New York City Department of Education**, 212-374-5426. Give your address and ask for your district's phone number for the Committee on Special Education (0-2 years & 5 years and older) or the Committee on Special Preschool Education (3 & 4 years).

### Referrals to Services

Call your district's **Committee on Special Education** for early intervention services.

For children who are 3 years and older, call your district's **Committee on Preschool Special Education** for intervention services.

### Department of Education District Phone Numbers

Districts 5 & 6 – 212-342-8300  
District 7 – 212-339-1600  
Districts 8 & 12 – 718-794-7420

### Advocacy Organization

The Early Childhood Direction Center  
Manhattan, 212-746-6175  
Bronx, 718-584-0658

# Healthy Home Healthy Child

## Protecting Your Children from Pesticides – What You Can Do

Spring 2007

### Dear Moms:

Since you have been in the **Mothers & Newborns Study**, you have learned a lot about pesticides:

- ✓ It is best not to use sprays, bombs, and fogs.
- ✓ Pesticides reach your unborn baby.
- ✓ If you are exposed to high levels of pesticides when you are pregnant, your baby can be born smaller.

You have also learned some good news about pesticides:

- ✓ Stores stopped selling some of the worst pesticides in 2000 and 2001. Exposures to pesticides dropped during pregnancy, and newborn growth improved.
- ✓ Lower toxic pesticides are safe to use and work – sticky traps, bait stations and gels.

Children in the **Mothers & Newborns Study** are getting older. With your help and your child's, we are learning more about how pesticide exposure in the womb can harm growing children. [We are finding that early exposure may affect learning, attention, and physical movement.](#)

Once again, there is GOOD NEWS. Early intervention services can do a lot to help children who are affected by pesticides in the womb. The developmental tests we use in this study can find problems early and help get your child services if needed. [Early therapy helps improve children's ability to focus on tasks, learn in school, and move their bodies.](#)

Please call your research worker with any questions. Our numbers are listed in the **Resource Corner**.

We are always glad to hear from you.

## Pesticides & Pregnancy Don't Mix

**PROBLEM:** Pesticides are toxic to your baby's development in the womb — just like lead and nicotine. During pregnancy, babies' brains grow the most in the 3rd trimester. This is also when nerves are developing. Nerves allow the whole body to communicate. We are learning that if nerves don't develop well during pregnancy, a child can grow to have problems. Children can have difficulty learning, paying attention, and moving their bodies.

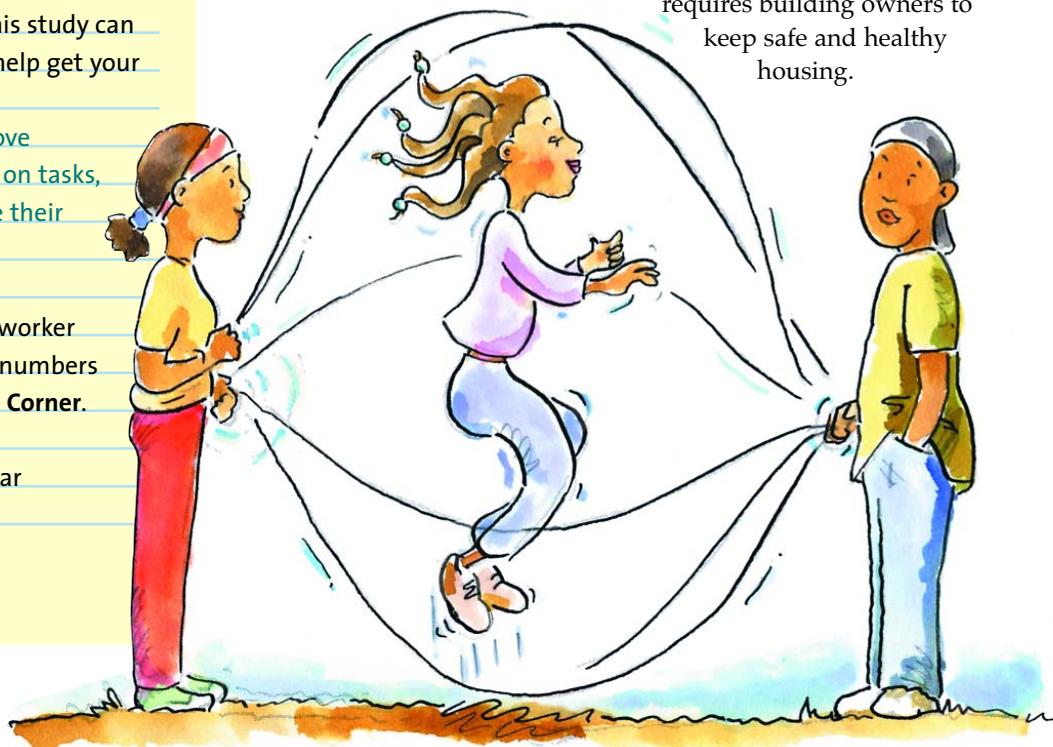
### What You Can Do

- ▶ **Throw away old pest control products.** Don't use products that have chlorpyrifos (also called Dursban) and diazinon. Don't use Tres Pasitos, Tempo, or Tiza China (Chinese Chalk). These rat and roach poisons are bad for children.
- ▶ **Use sticky traps, bait stations, and gels.** These products are safer, last longer, and are more effective than sprays, bombs, and fogs.
- ▶ **Plug small cracks with caulk to keep out pests.** For bigger holes, use steel wool or copper mesh and spackling compound. **Call your landlord for help.** The law

### WHAT'S INSIDE

- ▶ New study findings
- ▶ Getting early intervention services
- ▶ Safer pesticides to use at home
- ▶ Learning how IPM works
- ▶ Resource Corner

requires building owners to keep safe and healthy housing.



## What you can do:

If your child scores too low on a developmental test

- Your research worker will tell you and refer your child for a free evaluation by New York City's Department of Education. Your research worker's name and phone number are listed in the **Resource Corner**.

- You get needed services free.

For children under 3, the Department of Health's Early Intervention Program provides services. For children ages 3 and older, New York State Education Department's Committee on Preschool Special Education (3 and 4 years) and Committee on Special Education (5 years and older) provide services. Phone numbers are listed in the **Resource Corner**.

- For referrals to services, call your research worker. You can also call The Early Childhood Direction Center for free and confidential information on referrals for children ages 0-5. Phone numbers are listed in the **Resource Corner**.

Early services can prevent later problems

- It is important to follow up with an evaluation of your child if your research worker advises. Physical delays in 3-year-olds can mean later learning problems in grade school.

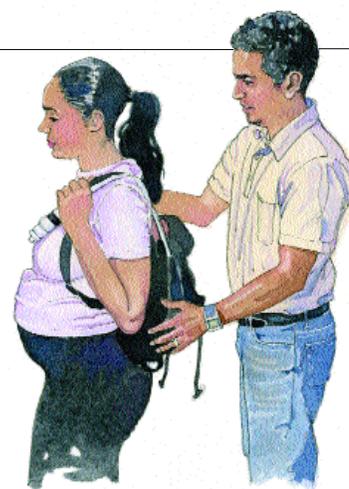
Other studies have found that delayed physical ability in preschoolers can mean delays in math, reading, and spelling in 3rd-graders. Early services can prevent your child from having problems later in school.

## HOW YOU HELPED US MEASURE PESTICIDES

We measured pesticides in you and your baby 3 different ways:

- 1) Using personal **air monitors** in backpacks that you wore during pregnancy.
- 2) In umbilical **cord blood** at your baby's birth.
- 3) And in a small amount of **blood from you** after delivery.

This helped us learn the amount of pesticides you were exposed to during



pregnancy. Blood from your baby's umbilical cord showed the amount of pesticides that reached your baby when you were pregnant.

## WHAT THE MOTHERS & NEWBORNS STUDY IS FINDING OUT

### Past Findings

**2002** – Most stores stopped selling pest control products that had a toxic pesticide called chlorpyrifos. Many of you were pregnant before this happened. Even after stores stopped selling products with chlorpyrifos, some of you still may have had them at home – and used them.

**During pregnancy, all of you breathed air with some pesticides in it.** Most of you (85%) told us that you used some form of pest control when you were pregnant. Almost half of you (46%) said you used one or more of the higher toxic methods such as can sprays, pest bombs and fogs, and exterminator sprays.

**2004** – We found that pregnant women in the study who were exposed often to

the pesticides chlorpyrifos and diazinon, had smaller babies than women who were exposed less.

### Current Findings

**2006** – Now we are finding that 3-year-olds who were exposed in the womb to higher levels of chlorpyrifos, scored worse on developmental tests than 3-year-olds with lower exposure in the womb. This means the children had more learning delays, physical delays, and attention problems.

- 50 out of 254 3-year-olds had the highest pesticide exposure in the womb. These children were more likely to show delays in movement and learning than children with low exposure in the womb.
- Physical movement was delayed more often than learning.
- Children who were exposed to high levels of pesticides in the womb were more likely to have difficulties paying attention and may be more active than other children at 3 years of age.

## EARLY INTERVENTION SERVICES CAN HELP

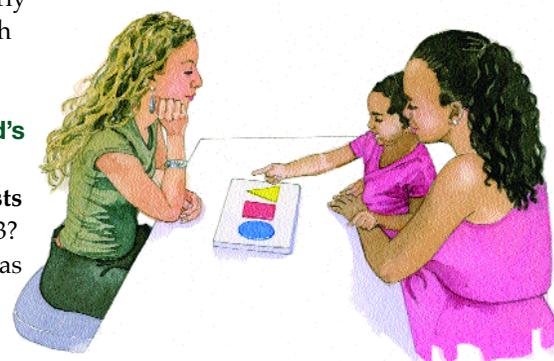
Early intervention services can do a lot to help children who are affected by pesticides in the womb. Babies exposed to higher levels of pesticides in the womb are more likely to need early intervention services than babies with lower exposure.

### What we did to measure your child's development

- 1) Remember the **developmental tests** we gave your child at ages 1, 2, and 3? They showed how well your child was developing mentally and physically.

- 2) When your child was 3, we **asked you about your child's behavior.** This helped us learn about any concerns you had.

- 3) When your child was 3, we also **came to your home to see how you and your child interact,** the types of toys your child likes, and the books your child reads. This showed us how your child learns at home.



# Good-bye pests, hello safe pest control

**CCCEH study finds IPM reduces cockroaches at home and eliminates toxic pesticides measured in blood samples from mothers and their babies at birth.**

## IPM Works & is easy to use

Integrated Pest Management (IPM) is a safe and good way to keep your home free of pests and toxic pesticides. During pregnancy, IPM reduces pests in your home and the level of harmful pesticides you breathe that can reach your unborn baby. Using IPM after pregnancy keeps your child safe from pesticides that may harm early development.

### IT'S SAFE, IT WORKS, AND YOU CAN DO IT.

1. Know which low-toxicity cleaning and pesticide products to buy.
2. Get a little help from your building superintendent and family members.



#### Use low-toxicity cleaning products

- ✓ Clear general clutter so pests do not have comfortable places to breed.
- ✓ Use low-toxicity, citrus-based cleaning products to remove food debris and grease stains. Examples of safe products are listed in the **Resource Corner**.



#### Apply low-toxicity pest control products

- ✓ Use a hair dryer to blow small amounts of boric acid powder directly under floor moldings and into cracks and holes before sealing with caulking compound.
- ✓ Place glue traps, gels, and bait stations for cockroaches and sticky traps for mice throughout the kitchen, bathroom, and any problem areas.



#### Make minor apartment repairs

- ✓ Seal pest entry points with caulking compounds and/or metal screens. Buy caulk and screens at your local hardware store. Ask your landlord or building superintendent to help make repairs. The law requires landlords to help keep apartments in good condition.



#### Family teamwork

- ✓ Talk to household members about the importance of everyone pitching in to help remove garbage from the home each day, eat meals and snacks in the kitchen only, and clean up dishes and food spills as quickly as possible.
- ✓ Inform household members about which pest control products are best to use at home and get everyone to agree not to use pesticide sprays or let exterminators into the apartment.

**PROBLEM:** Stores can no longer sell pest control products that have chlorpyrifos (also called Dursban) or diazinon. This is good news. But stores can still sell other products with pesticides that may be just as harmful.

IPM uses safest methods:

**Cleaning** – Keep kitchen clean of food spills and crumbs so pests don't come looking for food.

**Low-toxicity pest control products** – Use sticky traps, bait stations, gels, and boric acid to control pests safely and effectively.

**Building repairs** – Repair leaky pipes and close large holes, cracks, and crevices in your apartment to block pest entry points and eliminate breeding sites.

In a small study, we tested IPM in 25 homes of healthy pregnant women living in northern Manhattan or the South Bronx. IPM reduced cockroaches by almost half and eliminated toxic pesticides measured in blood samples from mothers and their babies at birth.

We used professional cleaning and pesticide services in this study. But you can use these same IPM methods at home.