



MotherToBaby

Medications & More During Pregnancy & Breastfeeding  
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

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## Pesticides

In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called her background risk. This sheet talks about whether exposure to pesticides may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from your health care provider.

### ***What are pesticides?***

A pesticide is a substance used to prevent or destroy “pests” such as insects, fungus or weeds which can harm crops or people. For example, pesticides are used to reduce the number of mosquitoes which may carry the West Nile virus or other diseases that can be spread to people. Pesticides used to kill weeds have also been called herbicides.

Pesticides sprayed outside with ground equipment or by aircraft are referred to as outdoor pesticides. There are many household products that are also considered pesticides, such as cockroach spray, rat poison, or flea collars for pets. These products are known as indoor pesticides.

### ***How can pesticides get into my body?***

Pesticides can get into your body in several ways. We could inhale them when breathing, ingest them by eating foods that were sprayed with pesticides, or absorb them through our skin. When outdoor pesticides are being sprayed, wind can carry some of the pesticide to other areas. Small amounts of outdoor pesticides can also be found in the food and water supply.

### ***What are some commonly used pesticides?***

There are many different kinds of pesticides used in the United States. Some commonly used pesticides are glyphosate (Round Up®), organophosphate pesticides (examples are malathion and naled) and pyrethrin and pyrethroid pesticides (example: Anvil®).

As this sheet talks in general about pesticides, please contact MotherToBaby to see if there is more information on a specific brand that you have questions about. When calling, have a copy of the label nearby so that you can list the ingredients.

### ***Will exposure to pesticides harm my pregnancy?***

Most animal studies with glyphosate, malathion, naled, pyrethrins, or pyrethroid exposure have not shown an increased chance for birth defects. Low birth weight and higher rates of fetal loss were seen at doses that were poisonous to the mother animal.

Two human studies looked at pregnancy outcomes following the repeated spraying of malathion, and another study looked at several different pesticides. These studies did not find a consistent increase in birth defects, and there was no effect on gestational diabetes, birth weight, or miscarriage rates. Another study found a higher chance for preterm delivery (birth before week 37) in counties of California that used higher levels of pesticides when compared to counties with lower pesticide use. These studies are limited because although pesticides were used in the community, the amount of exposure to each individual is typically not known. A study of 113 women using a pyrethroid cream to treat head lice did not show an increased chance for birth defects or pregnancy complications.

Some human studies have associated pesticide exposure during pregnancy with an increased chance of childhood cancer. These studies are limited because the actual amount of pesticide each individual was exposed to is unknown. In addition, it is possible that exposure to pesticides after birth was also present. Other studies have not shown that childhood cancer is related to pesticide exposure. At this point, there is not enough information to determine if exposure to pesticides during pregnancy increases the chance of childhood cancer.

***How can I minimize my exposure to pesticides?***

If possible, avoid mixing and applying pesticides yourself. If not possible, exposure can be minimized by working in a well-ventilated area and using protective equipment such as a respirator, long sleeves and pants, and gloves. Always follow handling and storage instructions on the pesticide label. It is unlikely that having your home or workplace treated by a professional exterminator will result in a high enough exposure to increase the risk to a pregnancy. To reduce exposure to pesticides found on food, thoroughly wash produce and your hands before eating.

***What if I am exposed to pesticides while breastfeeding?***

Pesticides might be found in breast milk, but studies on the effects of these pesticides have not been done. The nutritional and psychological benefits of breastfeeding may outweigh the risk of exposure from pesticides sprayed in your home, workplace, or community. Be sure to talk to your health care provider about all your breastfeeding questions.

***What if my partner is exposed to pesticides at home or at work?***

There are adult safety levels for pesticide exposure that should be followed in the workplace. In animal studies, high doses of malathion reduced male fertility. One human study compared men with high and low sperm counts and did not find a difference in the amounts of a malathion break down product in their bodies. Another study of 152 farmers found the 62 men who had been exposed to either paraquat or malathion or both in various amounts had lower sperm count and motility than those not exposed. In general, environmental exposures in men have not been associated with birth defects in offspring, although further studies are needed. For more information, please see the MotherToBaby fact sheet [Paternal Exposures and Pregnancy](https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/) at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/>.

**References Available By Request**

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