Pesticides

This sheet is about exposure to pesticides in pregnancy and while breastfeeding. This information is based on published research studies. It should not take the place of medical care and advice from your healthcare provider.

What are pesticides?

Pesticides are substances used to prevent or destroy "pests" such as weeds, insects, animals (rodents and other), fungus and parasites that can harm crops or people. For example, pesticides are used to lower the number of mosquitoes which may carry the Zika virus or parasites that cause diseases (like malaria) that can be spread to people. Pesticides used to kill weeds are called herbicides. Pesticides used to kill or prevent the growth of fungi and their spores are called fungicides.

Pesticides sprayed outside with ground equipment or by aircraft are called 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.

This sheet talks in general about pesticides. Please contact MotherToBaby to see if there is more information on a specific product or ingredient that you have questions about. When calling, have a copy of the label nearby so that you can list the ingredients.

How can pesticides get into my body?

Pesticides can get into the body in several ways, such as breathing them in (inhalation), eating foods that were sprayed with pesticides (ingestion), or absorbing them through your 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®), organochlorines pesticides (DDT, dieldrin, lindane), organophosphate pesticides (examples are malathion and naled) and pyrethrin and pyrethroid pesticides (example: Anvil®, Raid®).

Can exposure to pesticides make it harder for me to get pregnant?

Some studies have suggested that pesticides and herbicides might increase the chance for fertility problems while other studies have not. Contact a MotherToBaby specialist to see if there is information on the specific product that you have questions about.

Will exposure to pesticides increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. In 2 human studies, there were no reported effects on miscarriage from spraying several different pesticides. Some other studies have suggested that pesticides might increase the chance for miscarriage and stillbirth while others have not. As there can be many causes of miscarriage, it is hard to know if an exposure or other factors (age, health, medications used, medical conditions) are the cause of a miscarriage. Contact a MotherToBaby specialist to see if there is information on the specific product that you have questions about.

Will exposure to pesticides increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like pesticides, might increase the chance of birth defects in a pregnancy. Most animal studies with glyphosate, organophosphates, organochlorines, pyrethrins, or pyrethroid exposure have not shown an increased chance for birth defects above the background risk.

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 above the

background risk. A study of 113 women who used a pyrethroid cream to treat head lice during pregnancy did not show an increased chance for birth defects or pregnancy complications. Some studies have suggested that pesticides might increase the chance of neural tube (spinal cord), heart, and hypospadias (opening of the urethra under the penis instead of at the tip) defects while other studies have not. One study suggested that atrazine, an herbicide, might increase the chance of gastroschisis (an opening in the baby's abdominal wall). Contact a MotherToBaby specialist to see if there is more information on the specific product that you have questions about.

Will exposure to pesticides increase the chance of other pregnancy-related problems?

In animal studies, low birth weight and higher rates of fetal loss were seen at doses that were poisonous to the pregnant animal. In human studies, there were mixed reports on the effects on birth weight and the rates of gestational diabetes. One 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. Some studies have suggested that pesticides may increase the chances of asthma and cancers later in life. These studies are limited because although pesticides were used in the community, it does not mean the women in the study were actually exposed. Contact a MotherToBaby specialist to see if there is more information on the specific product that you have questions about.

Does exposure to pesticides affect future behavior or learning for the child?

Some studies have suggested that some pesticides might increase the chance for learning and behavior problems, including executive functioning, language, motor skills, attention deficit hyperactivity disorder (ADHD), and autism while other studies found no differences. Contact a MotherToBaby specialist to see if there is more information on the specific product that you have questions about.

How can I minimize my exposure to pesticides?

For all pesticides, it is important to carefully follow the recommendations on the label and safety data sheet. The labels should cover how to handle, store, and clean up spills. It should also outline if protective gear, such as gloves, is recommended. If possible, avoid mixing and applying pesticides yourself if you are pregnant. If that is not possible, exposure can be minimized by working in a well-ventilated area and using protective equipment such as a respirator, long sleeves, long pants, and gloves. It is unlikely that having your home or workplace treated by a professional exterminator will result in a high enough exposure to increase risks to a pregnancy. To reduce exposure to pesticides found on food, wash produce and your hands well before eating.

Breastfeeding:

Studies have not been done to look at the effects of pesticides while breastfeeding. The benefits of breastfeeding may outweigh the risk of exposure from pesticides sprayed in your home, workplace, or community. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man is exposed to pesticides at home or at work, can it affect fertility or increase the chance of birth defects?

There are adult safety levels for pesticide exposure that should be followed in the workplace. In animal studies, high doses of malathion affected male fertility (ability to get a woman pregnant). A study of 152 farmers found that 62 males who had been exposed to either paraquat or malathion or both in various amounts had lower sperm count and motility than those not exposed. However, another human study compared men with high and low sperm counts and did not find a difference in the amounts of a malathion breakdown product in their bodies. In studies of other pesticides and herbicides, some studies suggested male fertility problems from exposure to pesticides and herbicides but other studies did not. Contact a MotherToBaby specialist to see if there is more information on the specific product that you have questions about.

In general, exposures that males have are unlikely to increase the risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at MotherToBaby.org.

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