



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet

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

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DEET (N,N-ethyl-m-toluamide)

This sheet talks about exposure to DEET in a pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare provider.

What is DEET?

DEET (N,N-ethyl-m-toluamide or m-DET) is the active ingredient in many common brands of insect repellent. Most repellents contain 10-25% DEET, but some products contain up to 99% DEET. DEET is the most effective and well-studied insect repellent on the market. DEET is particularly effective in preventing mosquito bites and tick attachment.

What is the best way for me to use DEET?

Products containing higher concentrations of DEET do not provide greater protection; they only last longer. For example, a product with 10% DEET gives approximately 2 hours of protection, whereas a product with 20% DEET lasts almost 4 hours. Concentrations of 50% or higher do not increase the length of protection. When applying DEET to the skin, you can minimize your exposure by using the lowest concentration that provides protection for the time you will be outdoors. Although less than 10% of the DEET applied to the body passes through the skin and enters the bloodstream, DEET can also be applied to the clothing (long sleeves and pants) rather than the skin.

I just found out I'm pregnant. Should I stop using DEET?

The benefits of using DEET during pregnancy may outweigh any possible risks. Using DEET properly on skin or clothing protects against 90% of all mosquito bites and tick attachments. DEET is the most effective protection against mosquitoes and ticks that can carry malaria, Lyme disease, dengue fever, yellow fever, Zika virus and West Nile virus. Illness caused by any of these diseases during pregnancy can be serious enough to have harmful effects on a developing baby.

Does using DEET increase the chance for miscarriage?

Miscarriage can occur in any pregnancy. Studies have not looked at the possible effects of DEET on the chance of miscarriage.

Does using DEET in the first trimester increase the chance of birth defects?

In every pregnancy, a woman starts with a 3-5% chance of having a baby with a birth defect. This is called her background risk. Most studies in pregnant animals have not found an increase in birth defects even with very high levels of DEET exposure. One study suggested that hypospadias (a birth defect where the opening of the penis is on the underside rather than the tip) was more common in boys born to women who used insect repellents early in pregnancy. However, the researchers questioned these mothers about their pregnancy exposures two to six years after the delivery of their children, making the reliability of this study low. There have been case reports describing adverse pregnancy outcomes following the mother's use of DEET during pregnancy, but these reports do not prove that the DEET exposure caused the adverse outcomes. Based on the available animal and human studies, it appears that exposure to DEET does not greatly increase the chance for birth defects.

Could using DEET in the second or third trimester of pregnancy cause other pregnancy complications or long-term problems for the baby?

Unlikely. When used as recommended, DEET does not appear to cause harmful effects when used later in pregnancy. A study of 449 women who used recommended doses of DEET daily during the second and third trimesters

of pregnancy found no increase in birth defects or problems with their babies' growth or development in the first year of life. A few studies have looked at the possible effects of pesticides, including DEET, on birth weight in human pregnancy. These researchers tested pesticide levels in umbilical cord blood following the infants' birth. They did not find an association between DEET and lower birth weight.

Can I use DEET while breastfeeding?

Using DEET has not been studied during breastfeeding, but the benefits of using DEET to prevent illness may outweigh any possible risks. Illnesses spread by mosquitoes and ticks can have serious health effects on nursing mothers and infants. To minimize exposure to DEET, the same instructions for using DEET during pregnancy can be followed during breastfeeding. Keeping DEET away from the nipple area will help prevent the baby from getting DEET in his or her mouth while breastfeeding. Talk to your healthcare provider about all of your breastfeeding questions.

If a man uses DEET, could it affect his fertility (ability to get his partner pregnant) or increase the chance of birth defects?

There is no evidence that using DEET will cause problems with a man's fertility or increase the chance of birth defects in his children. A study of 90 men found no association between the quality of the semen and the concentration of components of DEET in their urine. In general, exposures that fathers have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures and Pregnancy at: <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/>.

Please click here for references

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