



For more information about the Organization of Teratology Information Specialists or to find a service in your area, call (866) 626-6847 or visit us online at: [www.OTISpregnancy.org](http://www.OTISpregnancy.org).

## West Nile Virus Infection and Pregnancy

This sheet talks about the risks that exposure to West Nile Virus can have during pregnancy. With each pregnancy, all women have a 3% to 5% chance of having a baby with a birth defect. This information should not take the place of medical care and advice from your health care provider.

### *What is West Nile Virus (WNV)?*

WNV is a virus that can infect humans, birds, mosquitoes, horses and some other mammals. It is commonly found in Africa, West Asia and the Middle East. Since 1999 WNV has been found in the United States.

You cannot get WNV from birds or horses. If an infected mosquito bites a human, the human can become infected. The incubation period (the time from bite to the start of symptoms) is usually 2 to 14 days.

### *What are the symptoms of WNV?*

Most people infected with WNV will have no symptoms or very mild symptoms. About 20% of infected people will develop more serious symptoms of WNV. These symptoms include fever, headache, being very tired, body aches, swollen glands and sometimes a skin rash on the trunk of the body.

Less than 1% of infected people will develop severe infection that leads to swelling of the brain or swelling of the area around the brain and spinal cord. These symptoms include headache, high fever, neck stiffness, confusion, tremors, convulsions, muscle weakness, paralysis and coma.

Generally, symptoms of WNV last only a few days but can last up to two weeks. Symptoms of severe WNV may last several weeks and some people may experience long-term illness.

### *How is WNV treated?*

There is no specific treatment for WNV. Pain relievers such as acetaminophen may help relieve some minor symptoms. Individuals with severe WNV infection may need care in the hospital. You should contact your doctor if you think you have developed WNV.

### *I am pregnant. How do I prevent mosquito bites?*

Pregnant women should protect themselves when outdoors by using a mosquito repellent that contains DEET or picaridin. With proper use, these products will not increase the risk of birth defects or other pregnancy problems.

It is suggested that pregnant and breastfeeding women follow the same recommendations that are given for children's use of DEET. Wear long-sleeved shirts and long pants, a hat and shoes with socks. Apply the lotion to the hands, neck, face and wrists, then spray your clothing and hat. Since these products can be absorbed, covering only small areas of skin with DEET is advised. It is essential to use DEET or picaridin if outdoors during mosquito's active time, from dusk through dawn. Try to limit the time you spend outdoors when mosquitoes are most active.

To further decrease your exposure to mosquitoes, frequently change the water in birdbaths and outdoor water containers where mosquitoes might breed.

***I am pregnant and have been diagnosed with WNV. Can this harm my baby?***

Very little information is available regarding exposure to WNV during pregnancy. There is one known case of a pregnant woman passing on the virus to her unborn baby. The baby was born with serious medical problems. However, it is unclear whether the problems were caused by WNV infection or by other factors. No other cases of babies being born with problems have been reported despite many pregnant women having evidence of WNV infection. More research is needed before we can say whether a baby may have problems if a mother develops WNV during pregnancy.

***I'm breastfeeding. Can I use DEET or picaridin?***

Breastfeeding mothers must also protect themselves from mosquito bites by using DEET or picaridin. No reports or problems associated with using these products while breastfeeding have been noted. The application of DEET or picaridin while breastfeeding is the same as in pregnancy.

***I've been diagnosed with WNV. Should I continue to breastfeed?***

The passing of WNV through breast milk is still being researched through the Centers for Disease Control and Prevention (CDC). Infected infants and young children usually have mild symptoms and rarely develop complications from WNV. In one case, a woman was infected with WNV after the birth of her child. The virus was present in both the baby and the breast milk. However, the child had no symptoms and remained healthy.

Because there are important benefits to breastfeeding and the risk for passing WNV through breast milk is unknown, the CDC recommends that women should **not** stop breast feeding because of WNV infection. Talk with

your pediatrician about continuing to breastfeed if you have a confirmed active case of WNV.

September 2009.  
Copyright by OTIS.  
Reproduced by permission.



**Selected References:**

Centers for Disease Control and Prevention. 2004. Interim Guidelines for the Evaluation of Infants Born to Mothers Infected with West Nile Virus During Pregnancy. MMWR 53(07):154-156.

Centers for Disease Control and Prevention. 2002. Intrauterine West Nile Virus Infection - New York, 2002. MMWR 51(50):1135-1136.

Centers for Disease Control and Prevention 2002. Possible West Nile Virus Transmission to an Infant Through Breastfeeding - Michigan, 2002. MMWR 51(39):877-878.

Committee on Infectious Disease, American Academy of Pediatrics: 2003 Red Book: Report of the Committee on Infectious Diseases, 26<sup>th</sup> Edition.

Hinckley AF, et al. 2007. Transmission of West Nile virus through human breast milk seems to be rare. Pediatrics 119(3):e666-71.

Koren G, et al. 2003. DEET-based insect repellents: safety implications for children and pregnant and lactating women. CMAJ 169(3):209-12.

O'Leary DR, et al. 2006. Birth outcomes following West Nile Virus infection of pregnant women in the United States: 2003-2004. Pediatrics 117(3):e537-45

Paisley JE, et al. 2006. West Nile virus infection among pregnant women in a northern Colorado community, 2003 to 2004. Pediatrics 117(3):814-20.

*If you have questions about the information on this fact sheet or other exposures during pregnancy, call **OTIS** at **1-866-626-6847**.*