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Travelers should continue taking measures to prevent Zika, other diseases

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As the weather is slowly warming up in Delaware, signs of new life are emerging in the form of spring flowers, baby animals, and hatching insects such as mosquitoes. Over the past two years, the spread of the Zika virus due to mosquito bites has dominated the news. While thankfully, the number of confirmed Zika cases in the United States has rapidly declined, travelers should continue to take preventive measures against it, and other mosquito-borne diseases, while traveling abroad.

As of March 20, 2018, the Centers for Disease Control and Prevention (CDC) reports 12 confirmed Zika cases in the continental United States in 2018, all acquired while traveling abroad, with none in Delaware. While in 2017 no Zika cases were reported in Delaware, the CDC reported 427 cases in the continental United States, 416 of which were related to travel abroad. Those totals were significantly less than in 2016, when 17 confirmed cases were reported to the Division of Public Health (DPH)[1] and the CDC reported 5,168 confirmed Zika cases in the continental United States, 4,897 of which were related to travel abroad.[2]

According to the CDC, the countries with the most Zika activity are South American countries, some African countries, Mexico, and some Caribbean countries (see Figure 1). Local Zika transmission, meaning it is transmitted by a bite from a mosquito in the U.S., has also occurred in parts of Texas and Florida.[3]

Figure 1. World map of areas with risk of Zika

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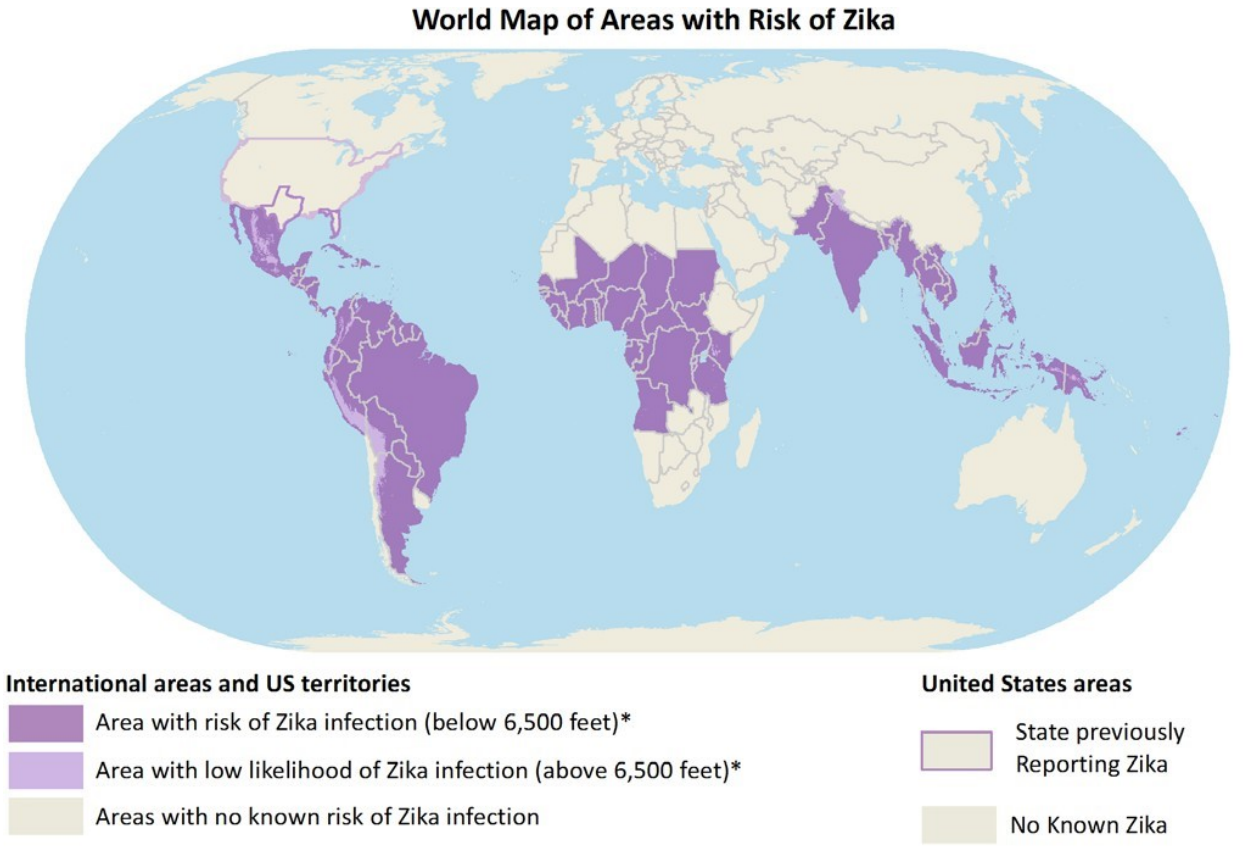
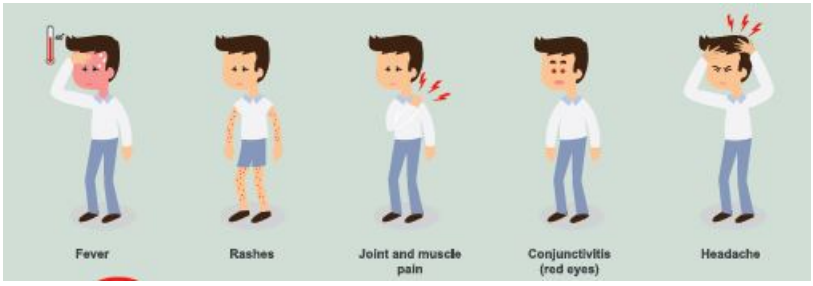


*Mosquitoes that can spread Zika usually live in places below 6,500 feet. The chances of getting Zika from mosquitoes living above that height are very low.

Zika is a disease caused by a virus transmitted primarily through the bite of infected Aedes mosquitoes. The Aedes aegypti mosquito most frequently transmits Zika virus in addition to dengue and chikungunya.[4] Though Aedes aegypti mosquitoes are extremely uncommon in Delaware, Zika transmission is also possible from the Asian tiger mosquito, Aedes albopictus, a species more often found in the First State.

Zika symptoms, should they appear, are mild and typically start two to seven days after being bitten by an infected mosquito. Symptoms are fever, rash, joint pain, and conjunctivitis (red eyes) (see Figure 2). Other routes of transmission are through sexual activity, or the passage of the virus from a pregnant mother to her baby during pregnancy or at birth. About one in five people with the virus will develop the disease.[4]

Figure 2. Symptoms of Zika



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When mothers are infected with Zika during pregnancy, several substandard birth outcomes can occur. The most serious is a brain birth defect, microcephaly, a condition in which a baby's head is smaller than expected when compared to babies of the same sex and age.[4]

Under Delaware law, health care providers must report individuals with known or suspected Zika infection to DPH.[5] Reporting is imperative in the cases of pregnant women, and newborns and infants born to women with known or suspected Zika infection. Because of the similar geographic distribution and clinical presentation, providers should evaluate patients with Zika symptoms for dengue and chikungunya virus infection in accordance with existing guidelines.

Those planning to travel to a Zika-impacted area may want to consider postponing a trip if they are pregnant, may become pregnant, or they are considering starting a family. If travel cannot be delayed, take these additional measures to prevent contracting or spreading Zika:

- Couples with a sexual partner who had possible Zika exposure through travel or sexual contact should use barrier methods (condoms or dental dams) correctly and consistently during vaginal, anal, and oral sex, and throughout pregnancy, for at least six months for men and eight weeks for women.
- Discuss a partner's potential exposures and history of Zika with your doctor.
- Women with possible Zika exposure who are trying to become pregnant should wait at least eight weeks before trying to conceive, even without symptoms. Men with possible Zika exposure should take every precaution not to contribute to pregnancy until after six months.
- Pregnant women and those trying to become pregnant who must travel to an area with Zika should talk with their doctors and follow steps to prevent Zika transmission. Women who traveled to active Zika transmission areas up to eight weeks before pregnancy confirmation should talk to their doctors about travel history and the potential risk of Zika.

However, Zika is not the only mosquito-borne disease that travelers should be concerned about. In addition to diseases such as dengue, and chikungunya, mosquitoes can also cause West Nile Virus, malaria and yellow fever.

According to the CDC, there is a large, ongoing outbreak of yellow fever in multiple states of Brazil.[6] Yellow fever is caused by a virus that is spread through mosquitoes. Symptoms of yellow fever (fever, chills, headache, backache, and muscle aches) take three to six days to develop. About 15 percent of people who get yellow fever develop serious illnesses including bleeding, shock, organ failure, and sometimes death.[7] In early 2017, the Brazilian Ministry of Health reported outbreaks of yellow fever in several eastern states, including areas where yellow fever was not traditionally considered to be a risk (see Figure 3). Since early 2018, a number of unvaccinated travelers to Brazil contracted yellow fever; many of these travelers were infected on the island of Ilha Grande (Rio de Janeiro State). Several have died, though none of the deaths were to residents of the U.S.[8]

The CDC has issued the following recommendations for anyone planning a trip to Brazil[6]:

- Any traveler older than 9 months of age should get a yellow fever vaccine at least 10 days before travel.

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- In addition to areas in Brazil where yellow fever vaccination has been recommended since before the recent outbreaks, the vaccine is now also recommended for people who are traveling to or living in: All of Espirito Santo State, São Paulo State, and Rio de Janeiro State as well as a number of cities in Bahia State[6] (see Figure 3).
- People who have never been vaccinated against yellow fever should avoid traveling to areas of Brazil where yellow fever vaccination is recommended.
- Travelers going to areas with ongoing outbreaks may consider getting a booster dose of yellow fever vaccine if it has been 10 or more years since they were vaccinated.

To prevent mosquito bites both at home and when traveling:

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning or that use window and door screens.
- Use Environmental Protection Agency-registered insect repellents and follow the instructions printed on the label.
- Do not use insect repellent on babies younger than 2 months.
- Dress children in clothing that covers their arms and legs.
- Do not apply insect repellent onto a child's hands, eyes, mouth, and cut or irritated skin.
- Spray insect repellent onto your hands and then apply to a child's face.
- Treat clothing with permethrin or purchase permethrin-treated items. Do not use permethrin products directly on your skin, as they are intended to treat clothing. Treated clothing remains protected after multiple washings. Read the product information to learn how long the protection will last.
- Sleep under a mosquito bed net if you are overseas and outside or not able to protect yourself from mosquitoes.

Figure 3. Expanded yellow fever vaccine recommendation areas in Brazil

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To report a case of Zika virus or for more information, call the DPH Office of Infectious Disease Epidemiology at 302-744-4990. For more information on Delaware mosquito control, visit the Department of Natural Resources and Environmental Control.[9]

References

1. Delaware Division of Public Health. (2018). Zika. Retrieved from: http://dhss.delaware.gov/dhss/dph/zika.html
2. Centers for Disease Control and Prevention. (2018). Zika reporting. Retrieved from: https://www.cdc.gov/zika/reporting/

DOI: 10.32481/djph.2018.07.009

3. Centers for Disease Control and Prevention. (2018). Areas with Zika. Retrieved from: https://wwwnc.cdc.gov/travel/page/world-map-areas-with-zika
4. Delaware Office of Infectious Disease Epidemiology. (2018). Zika. Retrieved from: http://www.dhss.delaware.gov/dph/zika.html
5. Delaware Office of Infectious Disease Epidemiology. (2018). Disease reporting. Retrieved from: http://www.dhss.delaware.gov/dph/dpc/rptdisease.html
6. Centers for Disease Control and Prevention. (2018). Yellow Fever, Brazil. Retrieved from: https://wwwnc.cdc.gov/travel/notices/alert/yellow-fever-brazil
7. Centers for Disease Control and Prevention. (2018). Yellow Fever symptoms. Retrieved from: https://www.cdc.gov/yellowfever/symptoms/index.html
8. Centers for Disease Control and Prevention. (2018). Travelers, Brazil. Retrieved from: https://wwwnc.cdc.gov/travel/destinations/traveler/none/brazil
9. Delaware Department of Natural Resources and Environmental Control. (2018). Delaware mosquito control. Retrieved from: http://www.dnrec.delaware.gov/fw/mosquito/Pages/MC-Diseases.aspx