

INFORMATION ON ZIKA VIRUS FOR OUTDOOR WORKERS

Zika data as of 6/13/16

WHAT IS ZIKA?

The Zika virus disease is caused by the Zika virus. It is transmitted to people mainly through the bite of the *Aedes* mosquitoes.

The virus was first discovered in 1947. Outbreaks have been reported in Africa, Southeast Asia and the Pacific Islands. In 2015, the first confirmed Zika virus infection was documented in Brazil. Local transmission has been reported in many other countries and territories, and the Zika virus will likely continue to spread to new areas. Zika cases have been reported in the U.S. and Puerto Rico.

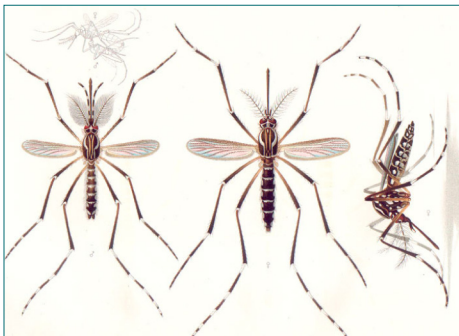


Figure 1. Adults of the yellow fever mosquito *A. aegypti*:

The male is on the left, females are on the right.

Only the female mosquito bites humans to transmit the disease.



Figure 2. *Aedes aegypti* feeding

HOW IS ZIKA TRANSMITTED?

Zika virus can be spread by:

1) **Mosquitoes.** *Aedes aegypti* mosquitoes (commonly known as yellow fever mosquitoes) are typically concentrated in the southern U.S. as well as parts of the Southwest. *Aedes albopictus* mosquitoes

(known as Asian Tiger mosquitoes) are found in much of the southern and eastern part of the U.S. and Puerto Rico. Both carry the virus.

These mosquitoes lay eggs in and near standing water in buckets, bowls, animal dishes, flower pots and vases. The mosquito bites an infected person, and the virus can be spread when the infected mosquito bites other people. These same mosquitoes also spread other diseases, such as dengue fever and chikungunya.

- 2) **Mother to child.** Transmission can occur during pregnancy or around the time of birth. At the present time there are no reports of transmission through breastfeeding.
- 3) **Sexual contact.** An infected man can spread the virus to sex partners; in most cases but not all, the infected man had symptoms.
- 4) **Bloodborne exposure.** Zika can be spread from bloodborne and other infectious body fluid exposures, like needlesticks or splashes.
- 5) **Blood transfusion.** While there are no confirmed cases in the U.S., some have been reported in Brazil.

WHO IS AT RISK FOR CONTRACTING ZIKA?

People who live in, or travel to an area where the Zika virus is found and they were not already infected, are at risk. For information on Zika-infected areas, go to 1.usa.gov/1teQiNo or you can also check the CDC map at 1.usa.gov/25K83SB for information on U.S. areas and territories.

WHAT ARE THE SYMPTOMS OF ZIKA INFECTION?

Most people who get infected with Zika don't get sick, so they don't know they have the disease. The time from infection to illness (called the incubation period),

is not known, but is believed to be a few days to a week. The Zika virus remains in the blood for about a week, but it can be longer for some people.

The most common symptoms are fever, rash, joint pain, and conjunctivitis (red eyes), muscle pain and headache. These symptoms are usually mild and last for several days to a week.

People usually don't go to the hospital with Zika, and they **very rarely** die of Zika. Once a person has been infected, they are likely to be protected from future Zika infections.

A small number of Guillain-Barré Syndrome (GBS) cases have been associated with Zika. Guillain-Barré is a rare disorder in which the body's immune system attacks the nerves.

Zika virus can also be spread from a pregnant woman to her fetus, and has been linked to a serious birth defect of the brain called microcephaly in babies of mothers who had Zika virus while pregnant. CDC recommends special precautions for women who are or may become pregnant. Click on [cdc.gov/zika/pregnancy/index.html](https://www.cdc.gov/zika/pregnancy/index.html) for more information on Zika and pregnancy. See your doctor or other healthcare provider if you are pregnant and develop a fever, rash, joint pain, or red eyes within two weeks after traveling to a place where Zika has been reported.

DIAGNOSIS AND TREATMENT

If you live in, or travel to a Zika-infected area and have symptoms, see a doctor; blood tests will confirm if you have been infected.

At present, there is NO vaccine, or specific medicine to treat Zika.

To recover from Zika infection, get rest, drink plenty of fluids, take acetaminophen to relieve fever and pain. Don't take aspirin or non-steroidal anti-inflammatories until you've spoken with your physician or healthcare provider and let them know if you are taking other medications.

To help prevent others from getting sick, avoid mosquito bites during the first week of infection. And to help prevent transmission to partners via sexual contact, abstain from sexual activity or use condoms during sexual activity during and following infection. For specific recommendations to prevent sexual

transmission, please visit the CDC Zika and Sexual Transmission page at [cdc.gov/zika/transmission/sexual-transmission.html](https://www.cdc.gov/zika/transmission/sexual-transmission.html)

HOW CAN WORKERS BE EXPOSED TO ZIKA?

Workers who are exposed on the job to mosquitoes, or the blood or other body fluids of persons infected with Zika, may be at risk for Zika. In some instances, having direct contact with infectious blood or other body fluids (such as semen through sexual transmission) of an infected person may lead to the spread of the virus.

WHAT SHOULD EMPLOYERS DO TO PROTECT OUTDOOR WORKERS FROM ZIKA?

OUTDOOR WORKERS may be at the greatest risk of exposure to the Zika virus.

Employers should:

- 1) provide information to workers about their risks of exposure to Zika virus through mosquito bites and train them how to protect themselves;
- 2) provide insect repellents and encourage their use according to the guidance below;
- 3) provide workers with, and encourage them to wear, lightweight, loose-fitting clothing that covers their hands, arms, legs, ankles and feet, and other exposed skin. In addition, workers should be provided with hats with mosquito netting to protect the face and neck;
- 4) provide workers with adequate water, rest and shade, and monitor workers for signs and symptoms of heat illness;
- 5) get rid of sources of standing water (e.g., tires, buckets, cans, bottles, barrels) whenever possible to reduce or eliminate mosquito breeding areas;
- 6) train workers about the importance of eliminating areas where mosquitoes can breed at the worksite;
- 7) if requested by a worker, consider reassigning anyone who indicates she is or may become pregnant, or who is male and has a sexual partner who is or may become pregnant, to indoor tasks to reduce their risk of mosquito bites.

Women workers should talk to their supervisor(s) about any outdoor work assignment(s) if they are or may

become pregnant; the same is advised for males, if their sexual partner is or may become pregnant.

HOW TO USE INSECT REPELLENT

- 1) Always follow label precautions. Use insect repellent containing an EPA-registered active ingredient; some provide longer-lasting protection than others. To avoid reactions to ingredients, follow directions on all repellents before use.
- 2) Repellents containing DEET or picaridin typically last longer than other products, and oil of lemon eucalyptus provides longer-lasting protection than other plant-based repellents. Permethrin is another long-lasting repellent that is intended for application to clothing and gear, but not directly to skin. Spray permethrin on the outside of clothing, as it is possible for mosquitoes to bite through thin clothing.
- 3) Choose a repellent that provides protection for the amount of time that you will be outdoors. In general, the more active ingredient (higher concentration) a repellent contains, the longer it will protect against mosquito bites. (For example, DEET has protection times ranging from 1 hour (4.75% DEET) to 5 hours (23.8% DEET). Concentrations of DEET above 50% do not offer increased protection time against mosquitoes.
- 4) Do NOT spray insect repellent on skin that is under clothing; do NOT apply insect repellent to skin that is already irritated, or to cuts/lacerations.
- 5) Do NOT spray aerosol or pump products in enclosed areas. Do NOT spray a pump or aerosol product directly on the face. First spray it on hands and then carefully spread it on the face (do not allow insect repellent to contact eyes or mouth).
- 6) After returning indoors and before eating, use soap and water to wash skin that has been treated with insect repellent. Reapply repellent when returning outdoors or after eating.
- 7) Outdoor workers may need to use sunscreen AND insect repellent. Repellents that are applied according to label instructions may be used with sunscreen with no reduction in repellent activity. However, the sun protection factor (SPF) of sunscreens when DEET-containing insect repellents

are used may decrease (by as much as one-third) when DEET-containing insect repellents are used after sunscreen is applied. Products that combine sunscreen and repellent are *not* recommended. Use separate products, applying sunscreen first and then applying the repellent. Due to the decrease in SPF when using a DEET-containing insect repellent after applying sunscreen, users may need to reapply the sunscreen more frequently.

- 8) Stop using insect repellent and/or sunscreen if a rash or other symptoms develop. Wash skin with soap and water, and talk to a healthcare provider or poison control center about your symptoms. Take other steps to avoid mosquito bites if insect repellent cannot be used.

FOR MOSQUITO CONTROL WORKERS

Pesticide handlers in New York State *must* be certified, as an applicator or a technician, to use pesticides. See on.ny.gov/1WDPZYt for more information.

- 1) In addition to following the same precautions recommended above for general outdoor work, those workers who are entering or working around areas with dense mosquito populations, such as ponds and other locations with standing water, may need enhanced skin protection to prevent mosquito bites. Employers should assess such workers' risks of mosquito bites, and consider providing any additional protective clothing to fully cover workers' exposed skin.
- 2) Workers who mix, load, apply, or perform other tasks involving wide-area (or area) insecticides may need additional protection to prevent or reduce exposure to hazardous chemicals. The EPA provides information for pesticide handlers on pesticide safety training, notification of pesticide applications, use of PPE, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance. See 1.usa.gov/1U6uZGf for more information.
- 3) Workers conducting mosquito control operations with insecticides may require respirators, which must be used in accordance with the respirator selection, medical clearance, fit-testing, and other requirements of OSHA's Respiratory Protection standard (29 CFR 1910.134). Employers should

monitor use of respirators by any worker who must drive vehicles (e.g., trucks used for insecticide application) to ensure that respirator use does not restrict the worker's ability to operate the vehicle safely. OSHA's Safety and Health Topics page on Respiratory Protection provides general information on respirator use and OSHA standards that may apply to the use of other chemicals. 1.usa.gov/28iFyxw

- 4) Employers must comply with any applicable requirements in OSHA's Personal Protective Equipment standards (29 CFR 1910 Subpart I), among other OSHA requirements.

In addition, some workers, including those working with insecticides to control mosquitoes and healthcare workers who may be exposed to contaminated blood or other potentially infectious materials from individuals infected with Zika virus, may require additional protections (e.g., certain types of personal protective equipment, PPE). Employers must comply with universal precautions for potential bloodborne pathogen (BBP) exposures, as described in OSHA's BBP standard (29 CFR 1910.1030), and any applicable requirements in OSHA's PPE standards (29 CFR 1910 Subpart I), among other OSHA requirements.

IF SOMEONE IS INFECTED WITH ZIKA AT WORK:

- 1) File a claim for workers' compensation to recover any lost pay and personal sick days, and to cover

all medical expenses, both short and long-term, relating to your illness.

- 2) If the exposure falls under OSHA's BBP standard (29 CFR 1910.1030), employers must comply with medical evaluation and follow-up requirements in the standard. See 29 CFR 1910.1030(f).

Paragraph 11(c) of the OSH Act, 29 USC 660(c), prohibits employers from retaliating against workers for raising concerns about safety and health conditions. Workers who are victims of retaliation can submit a complaint to OSHA; this complaint must be filed within 30 days of when the retaliation took place.

For more information on Zika:

US Centers for Diseases Control - cdc.gov/zika/

New York State Department of Health - on.ny.gov/1Y6y7Vlk

New York City Department of Health - on.nyc.gov/1TTIJSw

REFERENCES

U.S. Centers for Disease Control. Zika Virus. 1.usa.gov/1Zv7N61

OSHA/NIOSH Interim Guidance for Protecting Workers from Occupational Exposure to Zika Virus. 1.usa.gov/1PFnJSW

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