

# Zika Virus

MLC Subcommittee Presentation

May 19, 2016

[nyc.gov/health/zika](http://nyc.gov/health/zika)

# Zika Virus—Presentation to MLC Health and Safety Committee

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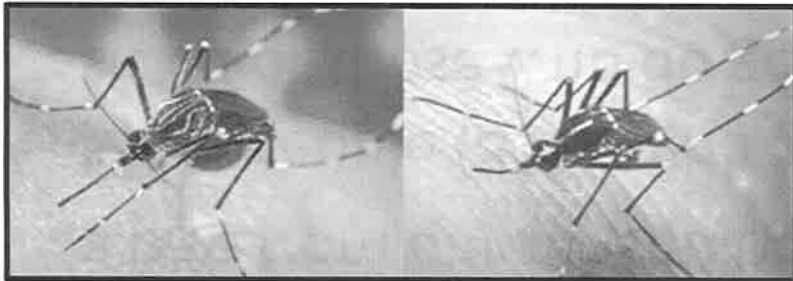
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## Key Facts

- People usually get Zika through a mosquito bite—but not a bite from *any* mosquito.
- Most people (80%) who get infected with Zika do *not* get sick. For those who do get sick, the sickness is usually mild. Most people recover on their own.
- However, Zika may cause birth defects.
- It is rare but possible for Zika to spread from one person to another through sexual contact and blood. Zika is *not* spread from person to person by casual contact.
- There is no Zika vaccine.

# The Mosquito That Spreads Zika

- **Scientific name:** *Aedes aegypti*
- Bites aggressively during the day and early evening
- Only found in certain parts of the world - tropical climates and parts of southern United States
- A *different* mosquito that can carry Zika is sometimes found in New York City during the summer: *Aedes albopictus*.
- *Aedes albopictus* is able to be infected with Zika, but health experts are still learning whether it is *likely* to spread Zika to people.
- Just because a mosquito can carry the virus does not mean that it will cause an outbreak.
- NYC is planning for the possibility that *Aedes albopictus* could be a competent vector of Zika.



Left: *Aedes aegypti*

Right: *Aedes albopictus*

# Affected Areas

## Americas

Aruba  
Barbados  
Bolivia  
Bonaire  
Brazil  
Colombia  
Commonwealth of Puerto Rico, U.S. territory  
Costa Rica  
Cuba  
Curacao  
Dominica  
Dominican Republic  
Ecuador  
El Salvador  
French Guiana  
Guadeloupe  
Guatemala  
Guyana  
Haiti  
Honduras  
Jamaica

Martinique  
Mexico  
Nicaragua  
Panama  
Paraguay  
Saint Martin  
Saint Vincent and the Grenadines  
Sint Maarten  
Suriname  
Trinidad and Tobago  
U.S. Virgin Islands  
Venezuela

## Oceania/Pacific Islands

American Samoa  
Fiji  
Kosrae, Federated States of  
Micronesia  
Marshall Islands  
Samoa  
Tonga  
New Caledonia

## Africa

Cape Verde





# Symptoms

- Most people (80%) who get infected with Zika do *not* get sick.
- Most common symptoms: fever, rash, joint pain and conjunctivitis (red eyes)
  - Symptoms are usually mild (*neurological issues very rare*)
  - Usually start two to 12 days after bite by infected mosquito
  - May last up to a week
  - Zika may be mistaken for dengue virus or chikungunya virus (also caused by mosquitoes)
  - Most people recover on their own

# Sexual Contact and Zika

It is rare but possible for Zika to spread through sexual contact. Sexually active, **non-pregnant** people should follow this guidance:

- If traveling to a Zika-affected area, use birth control **during the trip** and **for eight weeks after arriving home**.
- Men who traveled to a Zika-affected area can help stop the spread of Zika by using condoms correctly every time they have vaginal, anal and/or oral sex.
  - Men who were not sick while traveling should use condoms for **eight weeks** after returning home.
  - Men with symptoms should use condoms for **six months** after returning home.

# Pregnancy and Zika

**Zika causes birth defects.** Pregnant women, women who might be pregnant soon, and their male sex partners should avoid the virus.

- Postpone travel to affected areas. Use repellent if you do travel.
- **If you're pregnant and your male sex partner visited an affected area while you were pregnant, take extra precautions:** Plan together to abstain from sexual activity or use condoms correctly every time you have vaginal, anal and/or oral sex for the duration of your pregnancy.
- If you already traveled to an affected area or had condomless vaginal, oral or anal sex with a man who spent time in an affected area, contact your provider ***to discuss Zika testing.***
- If you want to be pregnant soon, and you or your male sex partner might have Zika, health experts recommend waiting before trying to conceive.

Find specific guidance at [nyc.gov/health/zika](https://nyc.gov/health/zika).



# Microcephaly

- A birth defect linked to Zika
- Causes a smaller than normal head compared to infants of the same age
- Is associated with developmental and functional delays
- In general, can be caused by
  - Genetic abnormality
  - Infections
  - Problem with blood flow to the developing fetus

# Blood Donation and Zika

It is rare but possible for Zika to spread through blood.

- Wait **four weeks** after returning home from a Zika-affected area before donating blood.
- People with Zika symptoms should avoid donating more blood until symptoms are gone for *at least four weeks*.
- Wait **four weeks** after the last sexual contact with a man who has Zika or might have Zika before donating blood.

# Testing

- May include urine and blood tests
- Is available for NYC residents who
  - Traveled to a Zika-affected area while pregnant.
  - Are pregnant and had vaginal, anal or oral sex with a man who spent time in a Zika-affected area and did not use a condom every time.
  - Had Zika symptoms within **four weeks** of travel to a Zika-affected area.
  - Developed Guillain-Barré syndrome after spending time in a Zika-affected area.
  - Fetuses and infants who have a birth defect linked to Zika (i.e. microcephaly) **and** whose mothers are at risk for Zika.

# Prevent Mosquito Bites While Traveling

- Use **insect repellent** containing DEET, picaridin or oil of lemon eucalyptus (not for children under 3 years old). Insect repellent is safe for pregnant women.
- Wear **long sleeves and pants**.
- Stay in places with **air conditioning** or window and door **screens**.
- Use a **mosquito bed-net** if you cannot keep mosquitoes out of your residence.
- Get rid of **standing water** that collects in and around your residence, since standing water attracts mosquitos.



# Health Department Zika Response

- Increase public awareness
- Educate providers and assist them with diagnosis
- Coordinate and perform laboratory testing
- Investigate suspect cases
- Monitor pregnant women with Zika infection and their babies
- Implement *Aedes* mosquito control plans

# Citywide Zika Plan

- Based on the following scenarios
  - Scenario 1: Pre-mosquito season, with imported cases (Already passed)
  - Scenario 2: Mosquito season, with imported cases (Began April 1)
  - Scenario 3: Mosquito season, with imported cases and local transmission in continental U.S. (Has not yet occurred)
  - Scenario 4: Mosquito season, with local transmission in greater NYC area (Has not yet occurred)

# Mosquito Control

- Surveillance:
  - Place traps in locations throughout city
  - Monitor mosquito populations by trapping
  - In lab: types of mosquitos, number of mosquitos; viruses in mosquitos
- Source control:
  - Eliminate standing water – Aedes can breed even in a spoonful of water
- Larvicide
  - A chemical that targets the larval (egg) life stage
  - Adulticide
    - A chemical that targets adult mosquitos, not eggs

# Mosquitoes and Standing Water

- The mosquito *Aedes albopictus* can breed in a tiny amount of standing water (water that does not flow).
- Help reduce *Aedes albopictus* mosquitoes in New York City by removing standing water that collects in:
  - Tires
  - Flower pots, buckets, pet water dishes and other open containers (*Turn them over, dump them out regularly or fill them with sand.*)
  - Clogged gutters (*Clean gutters every spring.*)
  - Neglected pools
- Report standing water complaints to 311.

Homeowners can get a **notice of violation** from the City if standing water is found on their property between April 1 and October 31 each year.





# Zika-Driven Changes in Mosquito Control

- **Additional Pesticide Application Method:**
  - Ground larviciding using truck-mounted applicators
- **New Pesticides**
  - DUET (Pyrethroid) for adulticiding
  - Methoprene for larviciding
- **Modified Decision-Logic for Pesticide Applications**
  - Temporal and frequency priority based on mosquito density, human behavior, and built environment characteristics, less so on viral-positivity.

# Mosquito Control

- Based on existing West Nile Virus control plans, with staffing and other resource enhancements
  - Current:
    - Able to conduct 5,000 larviciding treatments
    - Conduct 24 adulticide spray events
  - Enhanced with resources:
    - Double the capacity for larviciding to 10,000 treatments
    - Potential for up to 90 adulticide spray events throughout the City
- Potential for surge activation of holders of Category 8 pesticide applicator licenses from DOHMH and other agencies

# General Worker Health and Safety

# Information Sharing

- Established Zika Health and Safety Working Group (DCAS COSH, NYCEM, DOHMH, and OLR)
  - Evaluate City workers' reasonably anticipated exposure to mosquito-borne diseases and establish control measures
- Briefing presented to the Citywide Health and Safety Labor-Management Committee Meeting (May 4, 2016)

# Zika Training Programs

- *Zika Awareness Training*
  - Coordinated sessions for Agency Safety and Health Coordinators (May 5, 2016)
  - Coordinated sessions for Cultural Institutions (June 1, 2016)
- *Vector-borne Disease Presentation*
  - Mayoral, Non-Mayoral, Elected Officials and Cultural Institutions
    - June 16, 2016 and June 28, 2016

# Citywide Health and Safety Response

- Currently evaluating City Worker Exposure to Vector-borne Diseases (Survey)
- Vector-borne Disease Prevention Program
  - **Established 15-year program**
  - Updating *DOHMH Guidance for the Prevention of Vector-borne Diseases in City Workers\**
  - Updating *Prevention of Vector-borne Diseases in City Workers* Presentation
  - *Developing a Palm Card for City Workers*

\*DOHMH Guidance Document and Training Material updated to include information on Zika, further revision will be done if **local transmission** of Zika is found to occur.

# **Pesticide Applicators Surge Staff Health and Safety**

# Mosquito Control Surge Staff

- Enhanced mosquito control efforts include potential for surge activation of holders of Category 8 pesticide applicator licenses at DOHMH and other agencies
- Other agencies providing surge staff include:
  - NYCHA
  - Department of Correction
  - other agencies possible
- Requirements
  - Category 8 DEC license



# Health and Safety for Mosquito Control Surge Staff

- Training – will be provided by DOHMH
  - Vector-borne diseases
  - Heat stress
  - Review of Safety Data Sheets and Product Labels
  - Personal Protective Equipment
  - Pesticide application and related equipment- hands-on
- Personal Protective Equipment – will be provided by DOHMH
  - coveralls, gloves, hats, insect repellent

# Health and Safety for Mosquito Control Surge Staff (*cont'd*)

- Respirators and PPE dependent on surge staff tasks (for example, mixing and loading; applying larvicide; applying adulticide; working in marshy areas; etc.)
- Respiratory Protection
  - Same recommendations for DOHMH staff will apply to surge staff (for ex. N-95 for larviciding)

# Health and Safety for Mosquito Control Surge Staff (*cont'd*)

- For surge staff not part of a respiratory protection program in their home agency, DOHMH will provide initial:
  - Medical clearance
  - Fit testing
  - training

# Questions and Answers