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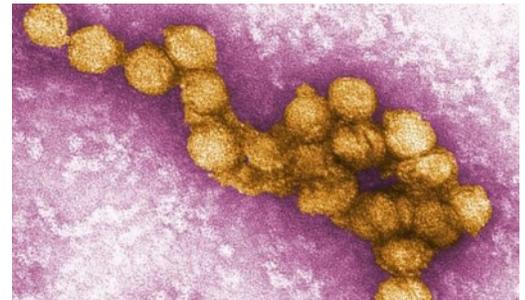
# EPI-MONITOR

Summer 2022

## DISEASE SPOTLIGHT: West Nile Virus<sup>1, 2</sup>

West Nile Virus (WNV) is an arbovirus, which is a group of viruses that are transmitted by mosquitoes, ticks, or other arthropods. According to the CDC, WNV is the leading cause of mosquito-borne disease in the continental United States. WNV belongs to the family *Flaviviridae* and genus *Flavivirus*. WNV is endemic in Florida and transmitted in a cycle between mosquitos and a host, primarily birds. Birds then infect feeding mosquitos that then transmit the virus to humans and other mammals during subsequent feedings.

Approximately 70-80 percent of human WNV infections are asymptomatic. The clinical spectrum for symptomatic infections includes mild febrile illness, aseptic meningitis, and encephalitis that can progress to coma and death. Other clinically compatible symptoms of WNV disease include headache, muscle ache, rash, joint pain, vertigo, nausea, and vomiting. Less than 1% of infected persons develop neuroinvasive disease, which typically manifests as meningitis, encephalitis, or acute flaccid paralysis.



A digitally-colored transmission electron micrograph of the WNV. Image courtesy of the Centers for Disease Control and Prevention.

Transmission is through the bite of an infected mosquito. While there are many different mosquito species present in Florida, not all of them can transmit arboviruses. The main mosquito species that transmits WNV belong to the *Culex* genus, which prefer to feed at dawn and dusk. Other modes of transmission include blood transfusion, organ transplantation, perinatal transmission, breastfeeding, and laboratory exposures. Since 2003, all blood donations are screened for the presence of WNV prior to transfusion. According to the Centers for Disease Control and Prevention (CDC), scientists have found no evidence that a mother's West Nile Virus infection harms her breastfeeding infant. Therefore, CDC recommends that women with West Nile Virus illness continue breastfeeding because the benefits of breast milk are thought to outweigh the risk of transmission to the infant. In the few documented cases of West Nile Virus transmission through breastfeeding (one case in the year 2002; three cases in the year 2003), none resulted in recognizable illness in the infant.

The incubation period (the time between when you become infected and when you experience symptoms) is 2-14 days for WNV illness, but usually 2-6. Humans are dead-end hosts for WNV because they do not produce significant viremia to infect mosquitoes and do not contribute to the transmission cycle for most zoonotic arboviruses, including those endemic to Florida.

## West Nile Virus (cont.)

Because zoonotic arboviruses are viral diseases, antibiotics are not helpful for treatment, and the effectiveness of antiviral agents for arboviruses in the U.S. has not been shown. Treatment is supportive, including medication to reduce discomfort, etc. At-risk populations include: immigrant populations, outdoor workers, and homeless people. Most patients with non-neuroinvasive WNV disease or WNV meningitis recover completely, but fatigue, malaise, and weakness can linger for weeks or months. Patients who recover from WNV encephalitis often have residual neurologic deficits. Among patients with neuroinvasive disease, the overall case-fatality ratio is approximately 10%, but it is significantly higher for patients with WNV encephalitis and poliomyelitis than WNV meningitis.

As WNV is spread to people through the bite of an infected mosquito, it is important to practice mosquito bite prevention (use insect repellent, wear long-sleeved shirts and pants, treat clothing and gear) and take steps to keep mosquitoes outdoors (using screens on windows) as well as preventing breeding by dumping containers and items that hold water like tires, buckets, planters, toys, pools, birdbaths, flowerpot saucers, or trash containers.

## Flu Vaccines

DOH-Collier offers flu vaccines for children and adults. Appointments are required for pediatric and adult vaccines. For more information:

**Naples:** Pediatric Vaccines (239) 252-8595 | Adult Vaccines: (239) 252-8207  
**Immokalee:** (239) 252-7300



## REMINDERS



- ◆ If a patient has an exposure requiring rabies post-exposure prophylaxis, treatment must start at the emergency room and Epidemiology Program must be contacted. Please fax a copy of the animal bite report to Domestic Animals Services (fax: 239-530-7775) as soon as possible. It is important that the bite reports are submitted to Collier County Domestic Animal Services in a timely manner so that investigations can begin as soon as possible. The Epidemiology Program is available for consultation regarding the initiation of rabies PEP.
- ◆ Provided your patient is diagnosed with a disease or health condition that is reportable under Florida law, please remind them that someone from the Epidemiology program at DOH-Collier will be contacting them via telephone, mail, and/or home visit to conduct an epidemiologic interview.
- ◆ Infants born to women who test HBsAg-positive should receive Hepatitis B Immune Globulin and the Hepatitis B vaccine series. DOH-Collier monitors these infants' vaccine records, and then requests post-vaccine testing to confirm immunity to Hepatitis B after completion of the vaccine series. Current household, sexual and needle-sharing contacts of pre-natal clients who test HBsAg-positive will be identified, and the DOH-Collier will provide testing and immunoprophylaxis for these individuals. If you have a pregnant client who tests HBsAg-positive, please notify the Epidemiology Program at (239) 252-8226.

## Summer Heat Safety

# BEAT THE HEAT

STAY HEALTHY & SAFE THIS SUMMER



### Drink water

Stay hydrated & don't wait until you're thirsty.



### Wear sunscreen

Apply sunscreen before going outdoors. Reapply every 2 hours.



### Avoid peak times

Stay indoors during the hottest time of the day from 10AM - 4PM if possible.



### Protect your eyes

Wear sunglasses to protect your eyes from UV rays.



### Keep cool

Protect your skin from direct sunlight to prevent sunburn.



### Look before you lock

Never leave children or pets inside the car. Protect them from heatstroke.



### Seek shade

Use a tree, umbrella or tent to protect you from the sun.

*Beat the Heat chart (c) Massachusetts Emergency Management Association – 2018 all rights reserved*

<sup>1</sup> Fischer, M, and E Staples. "West Nile Virus Disease." *Control of Communicable Diseases*, edited by David L. Heymann, American Public Health Association, Washington, DC, 2020, pp. 675–679.

<sup>2</sup> "West Nile Virus." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 7 July 2021, <https://www.cdc.gov/westnile/index.html>.

## Comparison of Selected Reportable Diseases for Collier County, 2021-2022

	Jan - June 2022*	Jan - June 2021
<b>Central Nervous System &amp; Invasive Diseases</b>		
CREUTZFELDT-JAKOB DISEASE (CJD)	3	0
MENINGITIS (BACTERIAL, CRYPTOCOCCAL, MYCOTIC)	1	0
MENINGOCOCCAL DISEASE	1	0
<b>Hepatitis</b>		
HEPATITIS A	1	0
HEPATITIS B ACUTE	4	8
HEPATITIS B (+HBsAg IN PREGNANT WOMEN)*	6	12
HEPATITIS B CHRONIC	37	31
HEPATITIS C ACUTE	5	13
HEPATITIS C CHRONIC	60	74
<b>Enteric Diseases</b>		
CAMPYLOBACTERIOSIS	44	51
CHOLERA (VIBRIO CHOLERA, TYPE O1)	0	0
CRYPTOSPORIDIOSIS	4	2
CYCLOSPORIASIS	1	3
ESCHERICHIA COLI, SHIGA TOXIN PRODUCING	15	4
GIARDIASIS	8	6
HEMOLYTIC UREMIC SYNDROME	0	0
SALMONELLOSIS	36	36
SHIGELLOSIS	6	7
VIBRIO ALGINOLYTICUS	2	0
VIBRIO PARAHAEMOLYTICUS	0	0
VIBRIO VULNIFICUS	1	0
OTHER VIBRIO SPECIES	1	1
<b>Vaccine Preventable Diseases</b>		
INFLUENZA A (NOVEL OR PANDEMIC STRAINS)	0	0
INFLUENZA A (PEDIATRIC MORTALITY)	0	0
MUMPS	0	1
PERTUSSIS	0	0
VARICELLA	6	3
<b>Vector Borne &amp; Zoonotic Diseases</b>		
ANIMAL BITE (PEP RECOMMENDED)	45	50
BRUCELLA	0	0
DENGUE FEVER (Imported)	0	0
LYME DISEASE	0	1
MALARIA	0	0
RABID ANIMALS	0	0
SPOTTED FEVER RICKETTSIOSES	0	0
WEST NILE VIRUS	0	0
<b>Others</b>		
CARBON MONOXIDE POISONING	6	2
CIGUATERA	0	0
LEAD POISONING	26	8
LEGIONELLA	3	2
LISTERIOSIS	0	0
PESTICIDE-RELATED ILLNESS/INJURY	0	0
<b>Sexually Transmitted Diseases (STDs)</b>		
CHLAMYDIA	580	541
GONORRHEA	135	152
SYPHILIS	60	39

\*Data is provisional