

Office of Disease Control  
and Health Protection

# EPI-LOG

Disease Control

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**To report a disease or outbreak:**

Phone: 386-274-0634 M-F, 8 a.m.-5 p.m.  
Fax: 386-274-0641  
After hours: 386-316-5030  
P.O. Box 9190, Bin #111  
Daytona Beach, FL 32120-9190

**Zika Virus Disease**  
**By: Paul Rehme, DVM, MPH**

For the second time in three years we are seeing local transmission in the Americas of a mosquito-borne disease previously not transmitted in the western hemisphere. This time the disease is Zika caused by a flavivirus from the same family as West Nile virus, Japanese encephalitis, and dengue. The disease was discovered in Africa in 1947 with only scattered case reports until two recent outbreaks in the Pacific (Yap and French Polynesia). Last summer there were reports that a significant outbreak was occurring in Brazil. The disease has since spread to 29 different countries in the western hemisphere reporting local transmission.



The disease itself is very mild with only about 20 percent of infections resulting in symptoms which are typically fever, rash, conjunctivitis and joint pain. The chief concern lies in the fact that there appears to be a possible link with fetal demise and a specific birth defect called microcephaly. The Centers for Disease Control and Prevention (CDC) is actively researching the possible link to be able to better characterize it. Meanwhile they have issued travel advisories and have cautioned pregnant women about travel to any affected areas until more is known about the link.

Primary means of transmission is through the bite of an *Aedes* mosquito, specifically *Aedes aegypti*, although *Aedes albopictus* is a secondary vector. The disease can also be transmitted sexually although reports of sexual transmission are not common and researchers at CHD and elsewhere are looking at

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characterizing this mode of transmission as well. *Aedes* mosquitoes are also the primary means of transmission for dengue, chikungunya, and yellow fever. In Florida, local transmission of dengue and chikungunya in recent years has occurred but has been limited to southeast Florida. We have seen travel associated cases of both in Volusia County but have not had any local transmission. As of February 29 we have not had a confirmed travel-associated Zika virus disease case.

In Volusia County *Aedes* mosquitoes typically are not found until late May. They are present until October. *Ae. aegypti* is generally only found in the eastern part of the county. *Aedes* mosquitoes are container breeders meaning they lay their eggs in anything that can hold water such as discarded cans, bottles, tires, etc. The key to controlling the mosquitoes (and thus preventing local spread of Zika) is to eliminate their breeding areas. Residents should look for potential breeding areas on their property and dump any containers with water. The risk for local mosquito transmission here in Volusia County is essentially non-existent this time of year and will be low, but possible, in the summer and early fall.

Testing for Zika virus disease can be done at the Florida Bureau of Public Health Laboratory (BPHL) in Jacksonville. Any provider wishing to have a patient tested for Zika virus needs to contact FDOH-Volusia County as we will need to facilitate the testing. BPHL will not test samples that have not cleared.

Local health care providers, especially obstetricians and women's health providers, should monitor new medical information on Zika virus to better be able to counsel their patients. For the latest please see the following web sites:  
<http://www.cdc.gov/zika/>  
<http://www.floridahealth.gov/diseases-and-conditions/zika-virus/>

## Childhood Lead Poisoning

By: David Parfitt, MPH, CPH

According to the Centers for Disease Control and Prevention (CDC) at least four million homes have children in them being exposed to high levels of lead. Lead exposure can have an effect on almost every system in the body and no safe blood level in children has been identified. Goals of Healthy People 2020 include reducing blood levels in children and reducing the number of U.S. homes that are found to have lead-based paint or related hazards.

Sources of lead exposure for children include gasoline, solder, lead-based paint and various contaminated consumer products. Exposure pathways are through air, water and dust to name a few. Children known to be at higher risk include those living in older properties, parents occupationally exposed to lead and those living in poverty. Suspected lead exposure can be verified through a blood lead test after consultation with a health care provider. Treatment options will be provided pending results.

If a child has been exposed to lead the CDC recommends the following steps to reduce blood levels. It is important to make a plan with your doctor regarding repeat testing, development assessments and appropriate treatment. A home should be cleared of lead following inspection by a licensed lead inspector and lead dust should be removed promptly from paint cracks and peels. It is also important to make sure your child is eating healthy foods that contain calcium, iron and vitamin C. In addition, contact your local health department for additional recommendations and resources.

As a reportable condition, lead poisoning cases should be forwarded to the local health department. Blood lead levels in adults or children  $\geq 10$  micrograms per deciliter (ug/dL) measured from either a venous or capillary specimen are notifiable. Clinical symptoms may include impaired neurobehavioral development, low IQ, slow nerve conduction, peripheral neuropathies or encephalopathy. Given that lead poisoning is often asymptomatic a clinical description is not necessary for case classification. After receipt of laboratory results the Florida Department of Health in Volusia County will conduct an investigation often times including an environmental assessment.

For more information regarding lead exposure or reporting requirements please contact the Florida Department of Health in Volusia County at 386- 274-0651.

### References:

Centers for Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)

Florida Department of Health: [www.floridahealth.gov](http://www.floridahealth.gov)



## Norovirus

By: Jyothi Praveen, MPH, CPH

Noroviruses (NoVs) are single-stranded RNA viruses that belong to the family of *Calciviridae*. Norovirus (NoV) strains are classified into five Geno groups. Geno group GI, GII, and GIV viruses infect humans; GIII NoV infect cattle; and GV NoVs infect mice.

Norovirus is a highly contagious virus. It is usually acquired from an infected person, contaminated food or water, or by touching contaminated surfaces. NoV is the most common cause of gastroenteritis in the United States. Usually seen across all age groups.

The Center for Disease Control and Prevention (CDC) estimates that each year in the United States Norovirus causes about 21 million illnesses and contributes to about 70,000 hospitalizations and 800 deaths. The best way to prevent it is hand washing and general cleanliness.

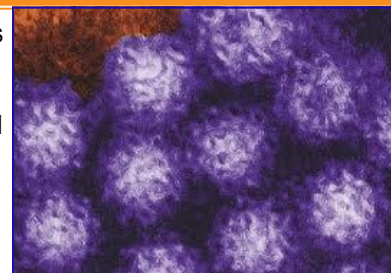
NoV causes inflammation of the stomach and the intestines. The most common symptoms with this infection are diarrhea, vomiting, nausea and abdominal pain. Other symptoms include fever, body aches and headache. Symptoms are seen within 12-48 hours after being exposed to NoV. Most people usually get better within 1 to 3 days. Dehydration can occur due to severe vomiting and diarrhea especially in young children, older adults and people with other illnesses.

Mode of transmission is primarily by person-to-person spread via fecal-oral route or through contaminated food or water. Another way of spread is through contaminated fomites (aerosolization of vomitus) that can enter a person's body through ingestion or inhalation. The incubation period for NoV infection is usually 24-48 hours but can range from 10-72 hours. Viral shedding begins the time the person is infected with the virus until several days after recovery.

NoV infection can be prevented by practicing good hand hygiene especially after using the toilet and changing diapers and always before eating, preparing or handling food. Also by carefully washing fruits and vegetables before preparing and eating them and cleaning and disinfecting contaminated surfaces immediately after an episode of diarrhea or vomiting using EPA (Environmental Protection Agency) approved disinfectants.

Control of infection spread is crucial in special situations like daycare, schools and healthcare settings. In case of outbreaks in these settings, it is critical to follow strict exclusion policy: a good recommendation would be at least 72 hours past resolution of symptoms. In health care settings, patient cohorting and isolation should be emphasized. Adherence to personal protective equipment (contact and standard precautions) is recommended for those entering patient areas, as well as halting patient transfers and new admissions until the outbreak is resolved. For more information on control of NoV outbreaks, visit: <http://www.cdc.gov/hai/pdfs/norovirus/229110ANorovirusControlRecomm508A.pdf>  
<http://www.cdc.gov/HAI/organisms/norovirus.html>

If an outbreak of Norovirus gastroenteritis is suspected, notify the Florida Department of Health in Volusia County at: 386-274-0634.



Volusia County Disease Activity*	4th Quarter 2015	4th Quarter 2014	Full Year 2015	Full Year 2014
<b>Vaccine Preventable</b>				
Mumps	0	0	0	1
Pertussis	0	8	2	17
Varicella	3	2	16	8
<b>CNS Diseases and Bacteremias</b>				
Creutzfeldt-Jakob disease (CJD)	0	0	0	2
Haemophilus influenzae (invasive)‡	1	2	3	6
Meningitis (bacterial, cryptococcal, mycotic)	0	0	1	1
Meningococcal disease	0	0	1	0
Staphylococcus aureus (GISA/VISA)	0	0	0	0
Streptococcus pneumoniae (invasive disease)‡	3	3	9	34
<b>Enteric Infections</b>				
Campylobacteriosis	13	13	75	61
Cryptosporidiosis	8	14	37	49
Cyclosporiasis	1	0	1	1
Escherichia coli, shiga-toxin producing (STEC)	5	4	7	17
Giardiasis	8	4	17	16
Listeriosis	0	0	1	0
Salmonellosis	45	47	154	146
Shigellosis	9	6	13	19
Typhoid Fever	0	0	0	0
<b>Viral Hepatitis</b>				
Hepatitis A	0	1	0	2
Hepatitis B, acute	5	2	11	6
Hepatitis B, chronic	22	19	88	84
Hepatitis C, acute	1	0	4	2
Hepatitis C, chronic	194	183	788	745
Hepatitis E	0	0	0	0
Hepatitis +HBsAg in pregnant women	1	2	3	7
<b>Vector Borne, Zoonoses</b>				
Brucellosis	1	0	1	1
Chikungunya	0	2	5	4
Dengue Fever	0	0	0	1
Ehrlichiosis/Anaplasmosis	1	1	3	2
Lyme disease	2	3	8	11
Malaria	0	1	0	2
Monkey bite	0	0	0	0
Q Fever, acute	0	0	0	0
Rabies, animal	2	0	3	3
Rabies (possible exposure)	55	12	146	116
Rocky Mountain spotted fever/Spotted Fever	1	0	6	0
Rickettsiosis	1	0	6	0
West Nile virus, neuroinvasive	0	2	1	4
<b>HIV/AIDS†</b>				
HIV	21	30	123	119
AIDS	5	11	36	54
<b>STDs†</b>				
Chlamydia	631	460	2064	1672
Gonorrhea	204	134	652	438
Syphilis				
Infectious (Primary and Secondary)	9	5	21	17
Early latent (Infection for <1 year)	11	3	21	11
Late latent (Tertiary)	0	6	17	32
Latent, unknown duration	5	0	5	8
<b>Others</b>				
Carbon monoxide poisoning	9	5	30	27
Ciguatera Fish Poisoning	0	0	0	1
Hansen's Disease (Leprosy)	0	2	2	2
Hemolytic Uremic Syndrome	0	0	0	0
Influenza due to novel or pandemic strains	0	0	0	0
Influenza-associated pediatric mortality	0	0	0	0
Lead poisoning	10	5	16	6
Legionellosis	1	1	2	7
Pesticide related illness or injury	0	0	0	0
Tuberculosis	-	-	8	8
Vibriosis	0	2	1	4

\*Includes reported confirmed/probable cases. Data is provisional and subject to change.  
† Numbers are for Area 12 (Volusia/Flagler)  
‡ Only reportable for young children

## Influenza Update

By: David Parfitt, MPH, CPH

### **Volusia County:**

While the 2015-2016 flu season has been relatively mild and below seasonal averages, there has been a rise in influenza-like illness (ILI) as well as laboratory confirmed flu test results recently. During the latest influenza surveillance week (Feb 14- Feb 20, 2016), the percentage of persons seen in our local emergency departments (EDs) with ILI has increased to five percent of total patients.

In addition, 71 samples of the 249 submitted from area health providers tested positive for the flu. Most of those samples testing positive were confirmed as influenza A unspecified. Surveillance from local hospitals and infection control teams have also reported increases in positive flu results. The majority of testing also confirmed influenza A with sporadic cases of influenza B. Although we have noticed an increase in the number of patients with ILI we have not seen an increase in the percent admitted and so far no patients were seen in the intensive care unit (ICU) most likely signifying a less severe illness.

### **State:**

According to the state report on influenza and ILI activity, there has been an increase in recent weeks of reported outbreaks and in ED and Urgent Care Center (UCC) ILI visits in both children less than 18 years of age and pregnant women. There was one influenza-associated pediatric death in a vaccinated resident with underlying health conditions. In addition, 51 counties out of 67 have reported "increasing" influenza associated activity for all demographics for the latest reporting week.

As of recent, both the number of specimens submitted to the state lab as well as the percent positive for influenza has increased. This is similar to or above levels noticed in prior seasons at the same time. According to lab results, influenza A 2009 (H1N1) is the most commonly identified subtype. Of the 23 specimens testing positive from the 39 submitted to the Bureau of Public Health Laboratories 48 percent were confirmed as influenza A 2009 (H1N1). The remaining were subtyped as either Influenza A (H3), influenza A unspecified or influenza B Victoria.

### **National:**

The Centers for Disease Control and Prevention (CDC) has announced that there has been a recent increase in influenza activity across the US. Nationally, during week six, 3.1 percent of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were for ILI. This is above the national baseline set at 2.1 percent. In addition, two influenza-associated pediatric deaths were reported. Geographically influenza activity was reported as widespread in Puerto Rico and 12 other states with 20 states reporting regional activity. The most commonly identified subtype reported by public health labs across the nation during the latest reporting week was influenza A (H1N1).

The health department continues to recommend that everyone six months of age or older receive the annual flu vaccine. Those with chronic conditions, the elderly, pregnant women and young children are all more susceptible to complications and should be made a priority. For more information regarding the flu or the current vaccine, please contact the Florida Department of Health in Volusia County at 386-274-0651.

### **References:**

Centers for Disease Control and Prevention: [www.cdc.gov/flu/](http://www.cdc.gov/flu/)

Florida Department of Health: [www.floridahealth.gov/floridaflu](http://www.floridahealth.gov/floridaflu)



Florida Department of Health in Volusia County  
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