



PUBLIC HEALTH ADVISORY
**ENTEROVIRUS D68 (EV-D68) RESPIRATORY ILLNESS &
ACUTE FLACCID PARALYSIS SURVEILLANCE**

October 1, 2014

SITUATION: As of September 30, 2014, 472 cases of EV-D68 have been confirmed in 41 states, including seven cases in California: six in southern California residents, and one case has been identified in northern California. In addition, the Centers for Disease Control & Prevention (CDC) are investigating a cluster of pediatric patients hospitalized with acute flaccid paralysis and spinal cord lesions in Colorado; the possible linkage of these to the respiratory illness outbreak is still under investigation. Some of the Colorado cases with neurologic illness had respiratory specimens test positive for EV-D68.

BACKGROUND: Enteroviruses (EV) can cause respiratory, gastrointestinal, febrile rash, meningitis, or other neurologic illnesses. While most infections cause mild or no symptoms, some can be severe. More than 100 types of EV cause ~10-15 million infections annually in the US, usually in the summer and fall.

EV-D68 primarily causes respiratory illness. Since the original isolation of EV-D68 in California in 1962, it has rarely been reported in the US. In August 2014, the CDC received reports of an increased number of cases of severe respiratory illness and hospitalizations in children in two clusters occurring in Kansas City, Missouri, and Chicago, Illinois. Almost all lab-confirmed cases have been in children. Over two-thirds had a history of asthma or wheezing. Fewer than one-third were febrile. Patients had difficulty breathing and hypoxemia; some had wheezing. Chest radiographs showed perihilar infiltrates in several patients. There are no vaccines or specific treatments for EV-D68. Clinical care is supportive.

California Department of Public Health (CDPH) has also been conducting enhanced viral testing and surveillance for patients with acute flaccid paralysis since 2012 and continues to seek information and specimens for testing, including viral testing for EV-D68.

ACTIONS REQUESTED OF CLINICIANS:

1. **Consider EV-D68** as a possible cause of acute, unexplained severe respiratory illness, especially with wheezing, in hospitalized pediatric patients. Fever may be absent.
2. **Test** for multiple viral pathogens, including influenza, RSV, enterovirus, and rhinovirus as available, in persons in whom EV-D68 is under consideration.
3. **Report** cases of **Acute Flaccid Paralysis** and submit specimens for testing, see details below.
4. **Contact** Alameda County Public Health Department (ACPHD) Acute Communicable Disease Unit (ACD) at 510-267-3250 **BEFORE** submitting specimens. **Collect and submit specimens** according to guidelines below.
5. Implement **standard, contact, & droplet precautions** for patients with known or suspected EV-D68.
6. **Report** clusters of severe respiratory illness resulting in hospitalization by phone to ACD, 510-267-3250.

INFECTION CONTROL: Implement **standard, contact, and droplet precautions** for hospitalized patients with suspected EV-D68 infection. Standard and contact precautions should be implemented for all enterovirus infections; **droplet precautions** are added for EV-D68 because of the predominant respiratory symptoms. **Hand hygiene with soap and water** is preferred as alcohol-based hand sanitizers have limited effectiveness against enteroviruses.



**ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
PUBLIC HEALTH DEPARTMENT**

Division of Communicable Disease Control and Prevention
1000 Broadway, 5th Floor
Oakland, CA 94607

Alex Briscoe, Director
Muntu Davis, MD, MPH, Director & Health Officer

Erica Pan, MD, MPH
Division Director & Deputy Health Officer
(510) 268-3200 FAX (510) 268-2140

EV-D68 is a non-enveloped virus. Thus, bleach or another hospital-grade disinfectant with an EPA label claim for non-enveloped viruses (e.g. norovirus, poliovirus, rhinovirus) should be used for environmental disinfection of surfaces.

LABORATORY TESTING: Health care providers should consider EV-D68 as a possible cause of acute, unexplained severe respiratory illness in patients <18 years of age, even if afebrile. Respiratory specimens (specified below) should be tested for multiple viral pathogens, including influenza, respiratory syncytial virus, rhinovirus (RhV), and EV through commercial or hospital clinical laboratories. Several FDA-approved multiplex respiratory virus panel assays are able to detect RhV and/or EV, but may not distinguish between RhV or EV, and none determine EV type. Thus, specimens from patients <18 years of age who are hospitalized for severe respiratory illness that test positive for EV or RhV should be considered for EV-D68 testing. Specimens may be sent to the Alameda County Public Health Laboratory (ACPHL) and will be forwarded to the CDPH Viral and Rickettsial Disease Laboratory (VRDL) for detection or confirmation of EV, and if EV positive, typing to identify if EV-D68.

Priority for EV-D68 testing will be given to those who:

- Test positive for enterovirus or rhinovirus (if test non-specific for rhino vs enterovirus) by PCR at a commercial or hospital laboratory **AND**
- Children under the age of 18 years with severe respiratory illness who are hospitalized, especially those admitted to an intensive care unit, **OR**
- Clusters or outbreaks of severe respiratory illness in all age groups, including those that occur in long-term care facilities.

Please call ACPHD ACD at (510) 267-3250 for prior approval for PHL testing. Respiratory specimens that will be accepted are oropharyngeal, throat swabs, or nasopharyngeal swabs, endotracheal aspirates, or other respiratory tract specimens, collected on a synthetic (e.g., Dacron) swab and placed in 0.7-3 ml of Viral Transport Media (VTM). Do not use Amies or other bacterial media. Please include with all specimens a completed “Enterovirus D68 Surveillance Submittal Form” available at: <http://www.cdph.ca.gov/programs/vrdl/Documents/Enhanced%20Enterovirus%20%20EV-D68%20Surveillance%20140909.pdf>. Store and ship specimens at 2°- 8°C to the Alameda County Public Health Laboratory, 499 5th Street, Oakland, CA 94607. ACPHL will forward all suspect and preliminary positive rhinovirus/enterovirus specimens to the CDPH Viral and Rickettsial Disease Laboratory (VRDL) for further characterization. Additional technical assistance with specimen processing and shipping is available from the ACPHL at (510) 268-2700.

CDPH Neurologic Surveillance & Testing program

Please submit cases of Acute Flaccid Paralysis and spinal cord lesions and specimens that meet CDPH criteria per guidelines at this website below to the Neurologic Surveillance and Testing Project. For questions, please contact: Anna Clayton. Phone: (510) 307-8608. Email: Anna.Clayton@cdph.ca.gov <http://www.cdph.ca.gov/programs/vrdl/Pages/NeurologicSurveillanceTesting.aspx>

Additional Information

CDPH: <http://www.cdph.ca.gov/Pages/NR14-080.aspx>

CDC: <http://www.cdc.gov/non-polio-enterovirus/about/ev-d68.html>

Health ALERT: conveys the highest level of importance; warrants immediate action or attention.

Health ADVISORY: provides important information for a specific incident or situation; may not require immediate action.

Health UPDATE: provides updated information regarding an incident or situation; unlikely to require immediate action.