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Health Advisory

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Enterovirus-D68

Interim Recommendations for Evaluation, Laboratory Submission & Infection Control

The San Francisco Department of Public Health (SFDPH) provides this guidance based on current information. For the most up-to-date information, visit www.sfdcp.org. Recommendations may change, and SF recommendations may differ from those issued by Centers for Disease Control & Prevention (CDC) or California Department of Public Health (CDPH).

SITUATION: Enterovirus-D68 (EV-D68) has now been confirmed among patients in many states, including California. No cases have yet been identified in San Francisco.

BACKGROUND: Enteroviruses can cause respiratory and gastrointestinal illness, rash and neurologic illnesses. While most infections cause mild or no symptoms, some can be severe. There are more than 100 types that cause approximately 10-15 million infections in the United States each year. Enteroviruses typically occur in the summer and fall.

Since the original isolation of EV-D68 in 1962, it has rarely been reported in the USA. Since August 2014, however, clusters of pediatric patients 6 weeks through 16 years with severe respiratory illness due to EV-D68 have been identified in several major US cities in a number of states. Patients tend to present with difficulty breathing and hypoxemia, and some with wheezing. Most patients have been afebrile at presentation and throughout the hospital course. Although the findings to date have been in children, EV-D68 may also affect adults. There are no available vaccines or specific treatments for EV-D68, and clinical care is supportive.

ACTIONS REQUESTED OF CLINICIANS:

1. Consider **EV-D68** as a possible cause of acute, unexplained severe respiratory illness. Fever may be absent.
2. Test for influenza, RSV, enterovirus, and rhinovirus in persons in whom EV-D68 is under consideration.
3. Collect and submit specimens according to guidelines referenced below, and **Contact** SFDPH Communicable Disease Control Unit (CDCU) at 415-554-2830 **BEFORE** submitting any specimens.
4. Implement **standard, contact, and droplet precautions** when caring for patients with known or suspected EV-D68.
5. **Report** clusters of severe respiratory illness 24/7 to CDCU at 415-554-2830.

TESTING AND EVALUATION:

Health care providers should consider EV-D68 as a possible cause of acute, unexplained severe respiratory illness, even in the **absence of fever**.

When the cause of respiratory infection in severely ill patients is unclear, **providers should first request testing of respiratory specimens for enterovirus and rhinovirus through their clinical or commercial laboratories**. Please note that many commercially available PCR tests can not readily distinguish enteroviruses from rhinoviruses, so patients with enterovirus- or rhinovirus-positive specimens should be considered for EV-D68 testing. In addition, patients should routinely be tested for influenza and respiratory syncytial virus

(RSV), since both pathogens can cause severe respiratory illness in young children especially at this time of year, and early treatment of influenza with antivirals can reduce morbidity and mortality.

Testing for EV-D68 takes a minimum of 7-10 days turnaround time. The testing protocol at the California Department of Public Health (CDPH) Viral and Rickettsial Disease Laboratory (VRDL) includes real-time reverse transcription polymerase chain reaction (rRT-PCR) testing for enterovirus, followed by sequence analysis to identify EV-D68.

Criteria for Testing:

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

- Test positive for rhinovirus or enterovirus by PCR at a commercial or hospital laboratory

AND

- Children under the age of 18 years with severe respiratory illness who are either hospitalized or who are 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 (including for the elderly).

SFDPH-CDCU will help determine appropriateness of testing in individual cases, in consultation with CDPH. Testing criteria may evolve as the epidemiology of EV-D68 in California is better understood.

LABORATORY SUBMISSION:

Contact SFDPH-CDCU **BEFORE submitting specimens** (415-554-2830; after hours follow voicemail instructions to contact the on-call physician).

- Submission of specimens from SF medical providers or facilities will be coordinated by SFDPH CDCU. **Do not send specimens directly to CDPH or CDC.**
- A minimum of 0.7 mL of original respiratory specimen (e.g., nasopharyngeal swab, oropharyngeal swab, endotracheal aspirate) is required for EV-D68 testing.

INFECTION CONTROL:

Routes of transmission for EV-D68 are not fully understood. Infection control guidelines for hospitalized patients with EV-D68 infection should include **standard and contact precautions**, as are recommended for all enteroviruses, plus **droplet precautions** due to the predominant respiratory nature of EV-D68.

As EV-D68 is a non-enveloped virus, environmental disinfection of surfaces in healthcare settings should be performed using a hospital-grade disinfectant with an EPA label claim for any of several non-enveloped viruses (e.g. norovirus, poliovirus, and rhinovirus).

REPORTING:

Single cases of infections due to non-polio enteroviruses are not reportable to the local health department. However, any clusters or outbreaks of illness are reportable to the SFDPH-CDCU at (415) 554-2830.

Finally, healthcare providers are recommended to ensure that patients with asthma have an asthma action plan (http://www.cdc.gov/asthma/tools_for_control.htm). Use of this plan should be reinforced, including adherence to prescribed long-term control medication. Those who are experiencing an exacerbation should be encouraged to seek care early.

ADDITIONAL RESOURCES:

California Department of Public Health: <http://www.cdph.ca.gov/Pages/NR14-080.aspx>

Centers for Disease Control & Prevention: <http://www.cdc.gov/non-polio-enterovirus/about/ev-d68.html>