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Clinical Advisory

To: Massachusetts Clinicians and Clinical Laboratory Directors

From: Alfred DeMaria, Jr., MD
Medical Director, Bureau of Infectious Disease

Michael Pentella, PhD
Director, Bureau of Laboratory Sciences

Date: **September 23, 2014**

Re: Enterovirus 68 (**Update**)

Enteroviruses cause respiratory and gastrointestinal illness, rash, and neurologic illnesses, such as aseptic meningitis and encephalitis. While most infections cause mild or no symptoms, some can be severe. There are over 100 types reported which cause approximately 10 to 15 million infections in the United States each year. They typically occur in the summer and fall.

In August 2014, enterovirus D68 (EV-68) was identified in children ill with severe respiratory illness in Kansas City, Missouri and Chicago, Illinois. EV-68 was first identified in California in 1962, and has been circulating worldwide over the past several years. EV-68 has now been detected in Massachusetts consistent with increases in hospital admissions for asthma and other evidence of respiratory infection in the community. Other enteroviruses may also circulate at this time of year, and have been detected in the U.S. in addition to EV-68. EV-68 and other more common enteroviruses are capable of causing the full spectrum of clinical presentation that is typical of enterovirus infections, although the current outbreak of EV-68 has been predominantly associated with respiratory disease and not nervous system infection. EV-68 behaves more like a rhinovirus, even to the extent of causing disease with little or no fever. Exacerbation of asthma has been a prominent part of the illness observed.

No antiviral medications are currently available for treating of EV-68 infections. Many infections will be mild and self-limiting, requiring only treatment of the symptoms. Some people with severe respiratory illness caused by EV-68 may need to be hospitalized and receive intensive supportive care. There are no licensed vaccines for protection against enterovirus infection. Clinicians should ensure that patients with asthma have an asthma action plan. Reinforce use of this plan, including adherence to long term control medication. Encourage people with asthma who are experiencing an exacerbation to seek care quickly.

Testing

The Massachusetts Department of Public Health (MDPH) is advising clinicians to consider EV-68 as a potential cause of illness in children and adults, and to pursue laboratory diagnosis in cases of severe respiratory illness without other explanation, particularly in young children. The Hinton State Laboratory Institute (HSLI) will accept nasopharyngeal specimens to test for enteroviruses in cases of severe lower respiratory infections, as well as spinal fluid and stool in cases of aseptic meningitis, flaccid paralysis and outbreaks of otherwise unexplained illness consistent with enterovirus. Collecting specimens during the first week of illness is ideal. A specimen set collected in the second week of illness should include a rectal swab or stool sample.

Nucleic acid testing at HSLI will be able to identify infection as human “enterovirus/rhinovirus” species without subtype differentiation of this Picornaviridae family member. Subtype identification (enterovirus species D serotype 68) by sequencing can be performed by the Centers for Disease Control and Prevention (CDC) and a few state public health laboratories, but significant delays in sequence typing turn around times are being observed. **Commercial laboratories are offering testing to detect enterovirus.** For those hospitals able to isolate enteroviruses, isolates can be sent to HSLI for forwarding to CDC for typing.

Infection control

Soap and water is the most effective method for hand hygiene, as hand sanitizers are less effective against enteroviruses. **Hand washing is recommended for contact with EV-68 (or any enterovirus or other non-enveloped virus, like norovirus; or with *Clostridium difficile*). In all other circumstances in a healthcare facility, routine hand hygiene, including use of alcohol rubs and gels, should be maintained. In healthcare settings, contact and droplet precautions should be used for cases of respiratory illness that are suspected or confirmed to be due to EV-68 infection.** Contact precautions should be used for diapered or incontinent children for the duration of illness. Since EV-68 is similar genetically to rhinovirus and causes similar respiratory symptoms, adding droplet precautions could be considered in the hospital setting.

In the community, standard measures to reduce the transmission of respiratory viruses should be adhered to (staying away from sick people, frequent hand washing, covering coughs and cleaning surfaces).

As EV-68 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, rhinovirus). Disinfectant products should be used in accordance with the manufacturer’s instructions for the specific label claim and in a manner consistent with environmental infection control recommendations (http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf).

Advice for parents and patients

- Wash hands often with soap and water for 20 seconds, especially after changing diapers
- Avoid touching eyes, nose and mouth with unwashed hands
- Avoid kissing, hugging, and sharing cups or eating utensils with people who are sick
- Disinfect frequently touched surfaces, such as toys and doorknobs, especially if someone is sick

Reporting

Single cases of infections due to non-polio enteroviruses are not reportable to the local health department or MDPH. However, any illness believed to be part of a suspected or confirmed cluster or outbreak is reportable to the local board of health, health department or to MDPH, if the local board of health cannot be contacted.

Please call the Division of Epidemiology and Immunization at (617) 983-6800 for general questions about enteroviruses or EV-68 or if you want to submit specimens for testing. Technical questions regarding testing can be directed to the HSLI Molecular Diagnostics; 617-983-6411 or Virus Isolation: 617-983-6382.

Guidance from CDC at: <http://www.cdc.gov/non-polio-enterovirus/about/EV-D68.html>