



# Health Alert Network

## Tri-County Health Department

Serving Adams, Arapahoe and Douglas Counties

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The pages that follow contain information critical to protecting the health of your patients and the citizens of Colorado.

## HAN UPDATE

Number of pages including cover: 4

Subject: **Update - Neurologic complications associated with enterovirus A71 infection in children**

Message ID: 9/13/2018 11:00:00 AM

Recipients: HAN Community Members.

From: TRI-COUNTY HEALTH DEPARTMENT

Adams, Arapahoe and Douglas County, Colorado

Recipient Instructions: **Tri-County Health Department is forwarding you the attached HAN. You may have already received this broadcast if you are on the CDPHE distribution list, however, we wanted to ensure you did not miss this important information. No response is required.**

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You have received this message based upon the information contained within our Health Alert Network Notification System. If you have a different or additional e-mail or fax address that you would like us to use, or if you have additional questions, call 720-200-1477.

### Categories of Health Alert Network Messages:

**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.

**Info Service/Public Health Brief:** Provides general information that is not necessarily considered to be of an emergent nature.

You may download a copy of this HAN from the TCHD website at  
<http://www.tchd.org/259/Health-Alert-Network>



**COLORADO**  
Department of Public  
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

HEALTH ALERT NETWORK BROADCAST

MESSAGE ID: 09122018 17:00

FROM: CO-CDPHE

SUBJECT: HAN Update - Neurologic complications associated with enterovirus A71 infection in children

RECIPIENTS: Local Public Health Agencies / IPs / Clinical Labs / EDs / ID Physicians / Coroners

RECIPIENT INSTRUCTIONS: Local Public Health Agencies - Please forward to healthcare providers.

## HEALTH UPDATE | Neurologic complications associated with enterovirus A71 infection in children |

September 12, 2018

Health care providers: Please distribute widely in your office

### Key points

- The Colorado Department of Public Health and Environment (CDPHE) continues to investigate cases of neurologic disease associated with enterovirus A71 (EV-A71) infection in children. There has been a significant increase in the number of cases since the prior update on June 26, 2018.
- As of September 12, CDPHE is aware of 34 confirmed cases of neurologic disease in children infected with EV-A71. This includes cases of meningitis, encephalitis, and acute flaccid myelitis (AFM) as well as children experiencing myoclonus (abnormal muscle jerking) and ataxia (loss of balance).
- Please continue to consider collecting throat, rectum, and cerebrospinal fluid (CSF) samples from children with aseptic meningitis, encephalitis, or other central nervous system infections for enteroviral PCR testing. EV-A71 is often not detected by PCR in CSF, so CDPHE recommends simultaneous testing from all three sites.
- Please continue to report all cases of meningitis, encephalitis, AFM, or other neurologic complications in patients who test positive for enterovirus to CDPHE. This includes patients with symptoms of myoclonus or ataxia in the setting of a febrile illness and a positive enterovirus test.
- In addition, enterovirus D68 (EV-D68), which can cause severe respiratory disease and has also been associated with AFM, is currently circulating in Colorado.

### Background information

CDPHE continues to investigate cases of neurologic disease associated with EV-A71 infection in children. Two previous HANs have been issued and are available on the CDPHE enterovirus website (<https://www.colorado.gov/pacific/cdphe/enterovirus>). As of September 12, CDPHE is aware of 34 cases of neurologic disease in children infected with laboratory-confirmed EV-A71. Specimens from additional patients are awaiting confirmatory testing at CDC. An isolated cluster of enterovirus neurologic disease associated with a childcare center was recently identified; public health is investigating to determine if these cases are associated with EV-A71. In addition to these pediatric cases, one case of EV-A71-associated neurologic disease has been identified in an immunocompromised adult.

The children with neurological symptoms who tested positive for EV-A71 include cases of meningitis, encephalitis, and AFM. They have most commonly presented with myoclonus and ataxia, and parents described their child's symptoms as dizziness, wobbliness, and big, jerking movements that were worse at night. The majority of children have been less than 3 years old (range 13 days to 15 years), previously healthy, and living in the Denver metropolitan area. All children have required hospitalization and there have been no deaths. Some children (approximately 40%) have had symptoms consistent with hand, foot, and mouth disease (HFMD).

While EV-A71 is one of many types of circulating enteroviruses, it is relatively uncommon. People with EV-A71 may be asymptomatic but can also present with a wide variety of illnesses including mild infections such as diarrhea, rashes, and HFMD. EV-A71 can also cause severe neurologic illness including aseptic meningitis, encephalitis, acute cardiac collapse (due to brainstem encephalitis), and AFM.

In addition to EV-A71, surveillance at Children's Hospital Colorado (CHCO) indicates an increase in enterovirus circulation, including EV-D68. Currently, about 20% of respiratory specimens from CHCO that are rhinovirus/enterovirus positive are positive for EV-D68. EV-D68 most commonly causes respiratory illness, and in 2014, it was associated with an increase in severe respiratory symptoms, especially among children with asthma. It is also associated with AFM.

### **Acute Flaccid Myelitis**

Enterovirus infections, including EV-A71 and EV-D68 infection, are associated with AFM, a rare disorder with a presentation similar to poliomyelitis with limb weakness, variable cranial nerve involvement, and MRI evidence of gray matter involvement in the spinal cord. There have been 9 confirmed cases of AFM in Colorado during 2018, including 7 children and 2 adults, an increase from the previous 3 years; 6 of these cases tested positive for EV-A71.

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## **Recommendations / guidance**

CDPHE recommends physicians order enteroviral PCR testing of CSF, throat, and rectal specimens simultaneously in patients with neurological symptoms or central nervous system (CNS) disease such as myoclonus, ataxia, meningitis, or encephalitis, especially if accompanied by a fever. EV-A71 is often not detected in the CSF by PCR. If specimens are enterovirus-positive, CDPHE can facilitate additional testing at CDC to determine enterovirus type. **Please report patients with CNS disease who are enterovirus positive to CDPHE at 303-692-2700. In addition, health care providers should continue to report all patients suspected of having AFM, as it is a reportable condition in Colorado.**

Hospitals admitting enterovirus-positive patients should consider standard, contact, and droplet precautions for the duration of the patient's illness.

Providers should recommend that children diagnosed with HFMD be excluded from childcare if they have mouth sores *and* are drooling uncontrollably. Colorado school and child care guidelines state that children with a fever and rash should be excluded from childcare or school until 24 hours after the fever ends and that children with diarrhea should be excluded until at least 24 hours after the diarrhea ends. For more information, please visit

<https://www.colorado.gov/cdphe/infectious-disease-guidelines-schools-and-childcare-settings>. To reduce transmission, advise patients and caregivers to wash their hands often with soap and water (especially after changing diapers and using the toilet), to clean and disinfect frequently touched surfaces (including toys), and to avoid close contact such as kissing, hugging, or sharing eating utensils or cups with people with HFMD.

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## For more information

- For the CHCO Bug Watch report, please visit: <https://www.childrenscolorado.org/globalassets/healthcare-professionals/bug-watch.pdf>
- For the full article on U.S. enterovirus surveillance from 2014-2016, visit: [https://www.cdc.gov/mmwr/volumes/67/wr/mm6718a2.htm?s\\_cid=mm6718a2\\_e](https://www.cdc.gov/mmwr/volumes/67/wr/mm6718a2.htm?s_cid=mm6718a2_e)
- For the publication on the 2003 and 2005 outbreaks of EV-A71 in Colorado, visit: <https://www.ncbi.nlm.nih.gov/pubmed/17879907>
- For the publication on a 2017 outbreak in Barcelona, Spain, visit: <https://www.ncbi.nlm.nih.gov/pubmed/28344164>
- For more information about AFM, visit:
  - <https://www.colorado.gov/pacific/cdphe/AFM>
  - <https://www.cdc.gov/acute-flaccid-myelitis/index.html>
- For more information on enterovirus, visit:
  - <https://www.colorado.gov/cdphe/enterovirus>
  - <https://www.cdc.gov/non-polio-enterovirus/index.html>

CDPHE Disease Reporting Line: 303-692-2700 or 303-370-9395 (after hours)

