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CDC Health Advisory

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Recent Reports of Human Parechovirus (PeV) in the United States—2022

Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to inform clinicians and public health departments that parechovirus (PeV) is currently circulating in the United States. Since May 2022, CDC has received reports from healthcare providers in multiple states of PeV infections in neonates and young infants. Parechoviruses are a group of viruses known to cause a spectrum of disease in humans. Clinicians are encouraged to include PeV in the differential diagnoses of infants presenting with fever, sepsis-like syndrome, or neurologic illness (seizures, meningitis) without another known cause and to test for PeV in children with signs and symptoms compatible with PeV infection (see below). Commercial laboratory assays, multiplex platforms for meningitis and encephalitis, and testing through state public health laboratories (SPHLs) are available to test cerebrospinal fluid (CSF) for PeV to confirm a diagnosis. [CDC laboratory support](#) is also available for testing and typing patient specimens.

To date, all PeV positive specimens tested and typed at CDC were type PeV-A3. Because there is presently no systematic surveillance for PeVs in the United States, it is not clear how the number of PeV cases reported in 2022 compares to previous seasons. PeV laboratory testing has become more widely available in recent years, and it is possible that increased testing has led to a higher number of PeV diagnoses compared with previous years.

Background

Human parechoviruses (PeVs), members of the *Picornaviridae* family, are common childhood pathogens associated with various clinical manifestations, ranging from asymptomatic or mild symptoms to severe illness. PeV share the same taxonomic family with enteroviruses. There are four species, of which only PeV-A is known to cause disease in humans. PeV-A has multiple types; PeV-A3 is most often associated with severe disease. Symptoms such as upper respiratory tract infection, fever, and rash are common in children between 6 months and 5 years, with most children having been infected by the time they start kindergarten. However, in infants less than 3 months, severe illness can occur, including sepsis-like illness, seizures, and meningitis or meningoencephalitis, particularly in infants younger than 1 month. Upon examination, the spinal fluid in infants with PeV often has few to no white blood cells. Long-term neurodevelopmental outcomes can occur, although this is rare. There is no specific treatment for PeV infection (1). However, diagnosing PeV in infants might change management strategies and provide important health information for families.

Both symptomatic and asymptomatic infected individuals can transmit PeV via the fecal-oral and respiratory routes. Shedding from the upper respiratory tract can occur for 1-3 weeks and from gastrointestinal tract for as long as 6 months after infection. The incubation period is unknown. PeVs are widespread and circulate worldwide. Some types show a clear seasonality of later summer and fall, similar to enteroviruses. PeV-A3 has been seen to demonstrate a cyclical pattern with peaks occurring biennially (2-4).

Recommendations for Clinicians

- Be aware that PeVs circulate in the summer and fall. In the absence of an identified pathogen, consider PeV infection in a neonate or infant presenting with fever, sepsis-like syndrome, or signs of neurologic involvement.
- Become familiar with [specimen collection, storage, and shipping procedures](#). Testing for PeV is available at commercial clinical laboratories and SPHLs, and hospitals may use multiplex meningitis and encephalitis panels for CSF testing that include PeV. Testing and typing for PeV are also available at CDC when other options are unavailable; clinicians should still work with their state public health department to send specimens to CDC. Please contact PicornaLab@cdc.gov before submitting specimens. Accepted specimens include CSF, throat or nasopharyngeal swabs, blood, and stool.
- Consider cohorting an infant hospitalized with detected PeV infection with other affected infant(s) to avoid healthcare-associated transmission in nurseries or neonatal intensive care units.
- Use [Contact, Droplet, and Standard Precautions](#). In most clinical situations, alcohol-based hand sanitizer (ABHS) is preferred for cleaning hands with an alcohol content of at least 60%. However, soap and water is the preferred method after patient care involving diapering or toileting, before eating or feeding, and if hands are visibly soiled (e.g., dirt, blood, body fluids). Although non-enveloped viruses may be less susceptible to alcohol than enveloped viruses, ABHS offers benefits in skin tolerance, compliance, and overall effectiveness, especially when combined with glove use. See [Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings –Recommendations of the HICPAC](#) for more information.
- [Consult the state health department](#) with questions about PeV.

Recommendations for Public Health Departments and Public Health Jurisdictions

- Be aware of circulating PeV and be prepared to receive inquiries about cases from healthcare providers in your jurisdiction.
- Upload reports of specimens that test positive for PeV to the [National Enterovirus Surveillance System \(NESS\)](#) to improve surveillance for this pathogen.
- Direct specimen testing questions to CDC at PicornaLab@cdc.gov.

For More Information

- [Non-polio Enterovirus](#)
- [Laboratory Testing for Non-polio Enterovirus](#)
- [Specimen Collection, Storage, and Shipment](#)
- [National Enterovirus Surveillance System \(NESS\) | CDC](#)

References

1. Harvala H, Griffiths M, Solomon T, Simmonds. Distinct systemic and central nervous system disease patterns in enterovirus and parechovirus-infected children. J Infect. 2014 Jul;69(1):69-74. doi: [10.1016/j.jinf.2014.02.017](https://doi.org/10.1016/j.jinf.2014.02.017). E. Epub 2014 Mar 22
2. Harvala H, McLeish N, Kondracka J, McIntyre CL, et al. Comparison of human parechovirus and enterovirus detection frequencies in cerebrospinal fluid samples collected over a 5-year period in Edinburgh: HPeV type 3 identified as the most common picornavirus type. J Med Virol. 2011 May;83(5):889-96. doi: [10.1002/jmv.22023](https://doi.org/10.1002/jmv.22023)

3. Van der Sanden S, de Bruin E, Vennema H, Swanink C, et. Al. Prevalence of human parechovirus in the Netherlands in 2000 to 2007. J Clin Microbiol. 2008 Sep;46(9):2884-9. doi: [10.1128/JCM.00168-08](http://dx.doi.org/10.1128/JCM.00168-08). Epub 2008 Jul 9
4. Abedi GR, Watson JT, Nix WA, Oberste SM, Gerber SI. Enterovirus and Parechovirus Surveillance – United States, 2014 – 2016. *MMWR* Morb Mortal Wkly Rep 2018;67:515-518. doi: <http://dx.doi.org/10.15585/mmwr.mm6718a2>.

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DHEC contact information for reportable diseases and reporting requirements

Reporting of **Human Parechovirus (PeV)** is consistent with South Carolina Law requiring the reporting of diseases and conditions to your state or local public health department. (State Law # 44-29-10 and Regulation # 61-20) as per the DHEC 2022 List of Reportable Conditions available at: <https://www.scdhec.gov/sites/default/files/Library/CR-009025.pdf>

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).

Regional Public Health Offices – 2022			
Mail or call reports to the Epidemiology Office in each Public Health Region			
MAIL TO:			
Lowcountry 4050 Bridge View Drive, Suite 600 N. Charleston, SC 29405 Fax: (843) 953-0051	Midlands 2000 Hampton Street Columbia, SC 29204 Fax: (803) 576-2993	Pee Dee 1931 Industrial Park Road Conway, SC 29526 Fax: (843) 915-6506	Upstate 352 Halton Road Greenville, SC 29607 Fax: (864) 282-4373
CALL TO:			
Lowcountry Allendale, Bamberg, Beaufort, Berkeley, Calhoun, Charleston, Colleton, Dorchester, Hampton, Jasper, Orangeburg Office: (843) 441-1091 Nights/Weekends: (843) 441-1091	Midlands Aiken, Barnwell, Chester, Edgefield, Fairfield, Kershaw, Lancaster, Lexington, Newberry, Richland, Saluda, York Office: (888) 801-1046 Nights/Weekends: (888) 801-1046	Pee Dee Clarendon, Chesterfield, Darlington, Dillon, Florence, Georgetown, Horry, Lee, Marion, Marlboro, Sumter, Williamsburg Office: (843) 915-8886 Nights/Weekends: (843) 409-0695	Upstate Abbeville, Anderson, Cherokee, Greenville, Greenwood, Laurens, McCormick, Oconee, Pickens, Spartanburg, Union Office: (864) 372-3133 Nights/Weekends: (864) 423-6648
For information on reportable conditions, see https://www.scdhec.gov/ReportableConditions		DHEC Bureau of Communicable Disease Prevention & Control Division of Acute Disease Epidemiology 2100 Bull St • Columbia, SC 29201 Phone: (803) 898-0861 • Fax: (803) 898-0897 Nights / Weekends: 1-888-847-0902	

Categories of Health Alert 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	Provides general information that is not necessarily considered to be of an emergent nature.