

PHSA Laboratories

BCCDC Public Health Laboratory



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Parechovirus Testing from CSF for All Infants <6 Months of Age

Human parechoviruses are ubiquitous viruses that are closely related to enteroviruses and are a relatively common seasonal cause of viral sepsis-like illness and meningoencephalitis in young infants. Seasonality tends to overlap with enteroviruses (late summer to late fall) and clinical presentation of meningoencephalitis is similar to enterovirus except gastrointestinal symptoms (vomiting and diarrhea) are more common and cerebral spinal fluid (CSF) analysis typically demonstrates absence of pleocytosis (1). Central nervous system infection is most frequent in the first three months of life and is rare after six months of age. The clinical significance of detecting parechovirus in respiratory and stool samples is not clear given that during the season it is frequently found in well infants (2, 3).

For viral testing requests on CSF, the BCCDC Public Health Laboratory (BCCDC PHL) tests all samples for enterovirus, herpes simplex virus (HSV) 1 & 2, and varicella zoster virus (VZV) by nucleic acid testing (NAT) while the BC Children's Hospital Microbiology Laboratory tests samples from infants for enterovirus, HSV 1 & 2, and parechovirus. **To enhance the detection of parechoviruses in infants, effective January 16 2017 all CSF specimens sent to the BCCDC PHL for viral testing from infants <6 months of age will be tested for enterovirus, HSV 1 & 2, and parechovirus at BC Children's Hospital.** Testing for VZV in this population will be by request. If there are any questions regarding parechovirus testing, please contact the Medical Microbiologist on call at BC Children's Hospital.

1. Sharp J, Harrison CJ, Puckett K, Selvaraju SB, Penaranda S, Nix WA, Oberste MS, Selvarangan R. 2013. Characteristics of young infants in whom human parechovirus, enterovirus or neither were detected in cerebrospinal fluid during sepsis evaluations. *Pediatr Infect Dis J* 32:213-216.
2. Kolehmainen P, Oikarinen S, Koskiniemi M, Simell O, Ilonen J, Knip M, Hyoty H, Tauriainen S. 2012. Human parechoviruses are frequently detected in stool of healthy Finnish children. *J Clin Virol* 54:156-161.
3. van den Bergh MR, Biesbroek G, Rossen JW, de Steenhuisen Pijters WA, Bosch AA, van Gils EJ, Wang X, Boonacker CW, Veenhoven RH, Bruin JP, Bogaert D, Sanders EA. 2012. Associations between pathogens in the upper respiratory tract of young children: interplay between viruses and bacteria. *PLoS One* 7:e47711.

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