

## Hot Tips: Public Health Advisory #126 Date: 4/26/2022

Please copy and distribute to ALL physicians at your location.

### ***Recommendations for Adenovirus Testing and Reporting of Children with Acute Hepatitis of Unknown Etiology***

The CDC has issued an alert to notify clinicians and public health authorities of a cluster of children identified with hepatitis and adenovirus infection. In November 2021, clinicians at a large children's hospital in Alabama notified CDC of five pediatric patients with significant liver injury, including three who tested positive for adenovirus. All children were previously healthy and did not have COVID-19. Case-finding efforts at this hospital identified four additional pediatric patients with hepatitis and adenovirus infection for a total of nine patients admitted from October 2021 through February 2022; all five that were sequenced had adenovirus type 41 infection identified. In two patients, plasma samples were negative for adenovirus by quantitative polymerase chain reaction (qPCR), but both patients were positive when retested using whole blood. Two patients required liver transplant; no patients died. A possible association between pediatric hepatitis and adenovirus infection is currently under investigation. Cases of pediatric hepatitis in children who tested negative for hepatitis viruses A, B, C, D, and E were reported earlier this month in the United Kingdom, including some with adenovirus infection. Adenovirus type 41 commonly causes diarrhea, vomiting, and fever and it may be accompanied by respiratory symptoms. While there have been case reports of hepatitis in immunocompromised children with adenovirus type 41 infection, adenovirus type 41 is not known to be a cause of hepatitis in otherwise healthy children.

Clinicians who may encounter (or have encountered since October 1, 2021) pediatric patients with elevated aspartate aminotransferase (AST) or alanine aminotransferase (ALT) (>500 U/L) AND with hepatitis of unknown etiology (with or without adenovirus test results, independent of the results) should perform adenovirus testing and contact Ventura County Public Health Communicable Disease Program within one business day via fax or by calling 805-981-5201 to report cases or with any related questions. Also, please email CDC at [ncirddvdgast@cdc.gov](mailto:ncirddvdgast@cdc.gov) to notify of any cases meeting the above criteria.

Nucleic acid amplification testing (NAAT, e.g. PCR) is preferred for adenovirus detection and may be performed on respiratory specimens, stool or rectal swabs, or blood. According to CDC, anecdotal reports suggest that testing whole blood by PCR may be more sensitive than testing plasma by PCR; therefore, testing of whole blood could be considered in those without an etiology

who tested negative for adenovirus in plasma samples. Heparin should not be used as the blood anti-coagulant, as it may interfere with PCR.

Adenovirus testing can be performed either within facility or through a commercial lab. Clinical lab testing should take into consideration that:

- Specimens should be collected as soon as possible in the clinical course of the illness
- Collection of stool and blood specimens is recommended in addition to standard respiratory specimens (e.g., nasopharyngeal swab). NAAT testing (e.g., PCR) is preferable.
- Stool adenovirus F 40/41 PCR is included on GI BioFire PCR panel
- BioFire respiratory viral PCR panel includes adenovirus detection
- Whole blood (collected in EDTA tubes) has proven to be more sensitive in these patients than serum. Adenovirus qualitative PCR should be submitted. (This test is offered by ARUP laboratories and may be available at other commercial labs as well.)

**This bulletin is intended to improve the public health in our county by keeping physicians and nurses informed of noteworthy diagnoses, disease trends, and other events of medical interest. Another goal of a public health department is to educate. We hope that you will use this information to increase your awareness. Please allow us to continue in our role of speaking to the press so that we may maximize the educational message to the benefit of all citizens of Ventura County.**