# EPI WATCH

Monthly Epidemiology Newsletter

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**Disease Reporting**
To report diseases and clusters of illness:
Phone: (727) 824-6932
Fax: (727) 484-3865
(excluding HIV/AIDS)

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## *Cryptosporidium*

Alissa Brown, MPH, CIC

*Cryptosporidium,* commonly referred to as "Crypto," is a microscopic parasite that causes diarrhea and gastrointestinal illness. Crypto is transmitted when the infectious life stage called oocysts are ingested. Symptoms of Crypto include watery diarrhea, stomach cramps, nausea, vomiting, fever, and weight loss. These symptoms typically develop 2 to 10 days (average 7 days) after exposure and resolve 1 to 2 weeks in persons with healthy immune systems. People with weakened immune systems are likely to have severe and potentially life-threatening symptoms.

The parasite can be found in water, food, soil, or on surfaces or dirty hands that have been contaminated with the feces of infected humans or animals. While this parasite can be spread in different ways, transmission through recreational water or drinking water is the most common vehicle. *Cryptosporidium* is protected by an outer shell that allows it to survive outside the body for long periods of time, potentially weeks or months. Because of this, using standard chlorination methods to clean water may not kill the parasite. Crypto is recognized as one of the most common causes of waterborne diseases among humans in the United States. Crypto infection can be prevented by:

- Avoiding recreational waters such as pools, hot tubs, or splash pads when experiencing diarrhea
- Washing hands thoroughly with soap and water after using the toilet, changing diapers, and before eating or making food.
- Washing and peeling all raw fruits and vegetables before eating. When traveling to countries where the water supply may be unsafe, avoid eating raw foods washed with tap water. Choose steaming hot drinks, such as coffee and tea, and pasteurized fruit drinks. Make sure bottled water is safe to drink.


The Centers for Disease Control and Prevention published a Morbidity and Mortality Weekly Report reporting outbreaks associated with treated recreational water in the U.S. Because Crypto can persist in properly chlorinated water, it can cause larger outbreaks than those caused by pathogens that are inactivated within minutes. Between 2015 and 2019, approximately 208 outbreaks occurred associated with treated recreational water. Most of the outbreaks investigated were reported between June and August and were associated with pools. Between June and August, 63 outbreaks were caused by Crypto with 58 being associated with pools and seven with water playgrounds. When responding to a diarrheal incident in a public setting (public pool, waterpark, splashpad) operators are referred to follow the Model Aquatic Health Code (MAHC) hyperchlorination recommendation on inactivating the oocysts.

**For more on Cryptosporidium, please visit CDC Cryptosporidium**

**References:**

Centers for Disease Control and Prevention. (2021, May 20). Outbreaks associated with treated recreational water - United States, 2015–2019. Centers for Disease Control and Prevention. https://www.cdc.gov/mmwr/volumes/70/wr/mm7020a1.htm

McAlilly, L. (n.d.). Council for the Model Aquatic Health Code • CMAHC. https://cmahc.org/the-mahc?page=103

# Acute Hepatitis of Unknown Etiology in Children

By Holly Clancy, CHES®

On November 2021, the Centers for Disease Control and Prevention (CDC) received a notification from clinicians at a children's hospital in Alabama of five pediatric patients with significant liver injury who tested positive for adenovirus type 41. Out of five children, three had acute liver failure. None of the children had an active COVID-19 infection and were otherwise healthy. Two patients required a liver transplant and there were no patients that died during this time. As of May 5, 2022, the CDC and state partners are investigating 109 children with hepatitis of unknown origin across 25 states and territories. Under the investigation, 90% were hospitalized with 14% requiring liver transplants and five patients had died. Of note, more than half of the patients tested positive for adenovirus. The investigation is ongoing and a review of patient cases fit the criteria for acute hepatitis with unknown cause dating back to October 2021 is underway. Cases have also been identified in other countries. As of April 21, 2022, the World Health Organization identified at least 169 across 10 countries outside of the United States. No international travel exposures are noted at this time.

While adenovirus type 41 has been identified in many cases, it is still unclear if the virus is the cause of acute hepatitis currently under investigation. Adenovirus type 41 is primarily spread by fecal-oral transmission and is a common cause of pediatric acute gastroenteritis that includes symptoms such as vomiting, diarrhea, fever, and respiratory symptoms. Among children who are immunocompromised, adenovirus is recognized as a cause of hepatitis yet is now affecting patients that were otherwise healthy. Multiple risk factors and exposures are currently being investigated at this time, such as exposure to toxins and other potential infections not yet discovered.

If someone is concerned about their child's health, it is best for them to contact their healthcare provider. Additionally, they can monitor their children for any symptoms indicative of liver inflammation, which includes jaundice (yellowing of the skin and/or eyes), light-colored stools, vomiting, nausea, abdominal pain, fatigue, loss of appetite, fever, and dark urine. Helping children wash their hands often, covering their sneezes and coughs, avoiding people that are ill, and teaching them to avoid touching their mouth, nose, and eyes are also ways to help prevent disease.

For additional information, visit: www.cdc.gov/ncird/investigation/hepatitis-unknown-cause/overview-what-to-know.html

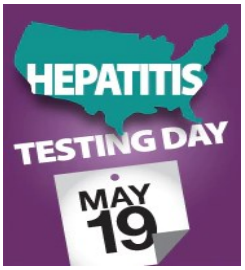
**References:**

Reis, T. A., Assis, A. S., do Valle, D. A., Barletta, V. H., de Carvalho, I. P., Rose, T. L., Portes, S. A., Leite, J. P., & da Rosa e Silva, M. L. (2016). The role of human adenoviruses type 41 in acute diarrheal disease in Minas Gerais after rotavirus vaccination. *Brazilian journal of microbiology : [publication of the Brazilian Society for Microbiology]*, *47*(1), 243–250. https://doi.org/10.1016/j.bjm.2015.11.011

# National Hepatitis Testing Day

By: Christopher Dix

National Hepatitis Testing Day is observed on May 19 to raise awareness of hepatitis B and hepatitis C and to encourage individuals to be tested to determine their status. Hepatitis is defined as inflammation of the liver and can be caused by a virus. There are many strains of Viral Hepatitis, but the three identified most often in the United States are hepatitis A, hepatitis B, and hepatitis C. Hepatitis B and C infections can present in either acute or chronic forms. Many individuals with chronic forms of hepatitis B or C do not display symptoms but can spread the virus to others, highlighting the importance of getting tested.




Each form of viral hepatitis is spread by different means. The main route of transmission of hepatitis A is fecal-oral; hepatitis B is transmitted by sexual transmission and/or blood-to-blood contact; and hepatitis C is transmitted by blood-to-blood contact. Vaccinations are available for the prevention of hepatitis A and B while there is no vaccination to protect against hepatitis C. The only prevention for hepatitis C is avoid contact with infected blood. The two most common tests for hepatitis C are antibody and RNA testing. A rapid antibody test can determine if a person has ever encountered hepatitis C in their life. It should be noted that it can take up to six months for antibodies to be detected. If the antibody test is positive, follow up testing with a confirmatory RNA will determine if the virus is currently present in the body. The CDC recommends adults 18 years or older, all pregnant women, and people who have any of risk factors listed below to get tested at least once in their time for hepatitis C (HCV). Risk factors include:

- A blood transfusion before 1992.
- Body piercings or tattoos in a non-commercial setting.
- Injection drugs or shared needle use.
- Sharing household items (an example is someone sharing a razor with a person with hepatitis C.

The CDC reported that approximately 2.4 million people living in the United States live with hepatitis C. Of those, 4 out of 10 people do not know that they are infected. To stop the spread of Viral Hepatitis, its critical to promote testing, education, vaccinations, and avoidance of risk factors.

**References**:

- CDC. (2020, July 29). Testing Recommendations for Hepatitis C Virus Infection. Center of Disease Control and Prevention. Retrieved May 10, 2020, from https://www.cdc.gov/hepatitis/hcv/guidelinesc.htm
- Center of Disease Control and Prevention. (2021, May 19). Statistics & Surveillance. Https://Www.Cdc.Gov/Hepatitis/Statistics/Index.Htm. Retrieved May 10, 2022, from https://www.cdc.gov/hepatitis/statistics/index.htm

# Select Reportable Diseases in Pinellas County

| | Pinellas | | YTD Total | | Pinellas County Annual Totals | | |
|---|---|---|---|---|---|---|---|
| **Disease** | **April 2022** | **April 2021** | **Pinellas 2022** | **Florida 2022** | **2021** | **2020** | **2019** |
| **A. Vaccine Preventable** | | | | | | | |
| Measles | **0** | **0** | **0** | **0** | 0 | 0 | 1 |
| Mumps | **0** | **1** | **0** | **4** | 1 | 1 | 3 |
| Pertussis | **0** | **0** | **0** | **15** | 1 | 8 | 27 |
| Varicella | **2** | **0** | **7** | **147** | 25 | 18 | 32 |
| **B. CNS Diseases & Bacteremias** | | | | | | | |
| Creutzfeldt-Jakob Disease (CJD) | **1** | **0** | **3** | **32** | 1 | 0 | 3 |
| Meningitis (Bacterial, Cryptococcal, Mycotic) | **3** | **0** | **7** | **51** | 6 | 5 | 7 |
| Meningococcal Disease | **0** | **0** | **0** | **25** | 1 | 2 | 1 |
| **C. Enteric Infections** | | | | | | | |
| Campylobacteriosis | **13** | **18** | **62** | **1148** | 214 | 247 | 303 |
| Cryptosporidiosis | **3** | **6** | **9** | **150** | 28 | 38 | 62 |
| Cyclosporiasis | **0** | **0** | **0** | **7** | 9 | 9 | 28 |
| *E. coli Shiga Toxin (+)* | **0** | **2** | **5** | **258** | 16 | 10 | 22 |
| Giardiasis | **3** | **2** | **6** | **350** | 29 | 28 | 52 |
| Hemolytic Uremic Syndrome (HUS) | **0** | **0** | **0** | **2** | 0 | 0 | 1 |
| Listeriosis | **0** | **0** | **2** | **21** | 3 | 2 | 2 |
| Salmonellosis | **15** | **7** | **43** | **1333** | 182 | 200 | 200 |
| Shigellosis | **3** | **1** | **9** | **223** | 37 | 19 | 22 |
| **D. Viral Hepatitis** | | | | | | | |
| Hepatitis A | **0** | **1** | **5** | **164** | 6 | 3 | 377 |
| Hepatitis B: Pregnant Woman +HBsAg | **4** | **0** | **9** | **116** | 11 | 18 | 21 |
| Hepatitis B, Acute | **3** | **3** | **7** | **235** | 52 | 40 | 71 |
| Hepatitis C, Acute | **10** | **8** | **44** | **487** | 89 | 117 | 75 |
| **E. VectorBorne/Zoonoses** | | | | | | | |
| Animal Rabies | **0** | **0** | **0** | **24** | 0 | 0 | 2 |
| Rabies, possible exposure | **20** | **8** | **47** | **1408** | 135 | 118 | 128 |
| Chikungunya Fever | **0** | **0** | **0** | **0** | 0 | 0 | 0 |
| Dengue | **0** | **0** | **1** | **25** | 0 | 1 | 3 |
| Eastern Equine Encephalitis | **0** | **0** | **0** | **0** | 0 | 0 | 0 |
| Lyme Disease | **1** | **0** | **1** | **61** | 6 | 11 | 19 |
| Malaria | **0** | **0** | **0** | **17** | 2 | 2 | 5 |
| West Nile Virus | **0** | **0** | **0** | **0** | 0 | 0 | 0 |
| Zika Virus Disease | **0** | **0** | **0** | **0** | 0 | 0 | 3 |
| **F. Others** | | | | | | | |
| Chlamydia | **321** | **372** | **1291** | **n/a** | 3956 | 4575 | 4355 |
| Gonorrhea | **142** | **151** | **605** | **n/a** | 1634 | 1526 | 1416 |
| Hansen's Disease | **0** | **0** | **0** | **0** | 0 | 0 | 0 |
| Legionellosis | **6** | **1** | **15** | **192** | 36 | 33 | 30 |
| Mercury Poisoning | **0** | **0** | **0** | **16** | 2 | 1 | 1 |
| Syphilis, Total | **66** | **48** | **219** | **n/a** | 479 | 493 | 434 |
| Syphilis, Infectious (Primary and Secondary) | **34** | **20** | **92** | **n/a** | 212 | 218 | 190 |
| Syphilis, Early Latent | **29** | **19** | **91** | **n/a** | 166 | 197 | 152 |
| Syphilis, Congenital | **1** | **1** | **3** | **n/a** | 5 | 6 | 3 |
| Syphilis, Late Syphilis (Late Latent; Neurosyphilis ) | **2** | **8** | **33** | **n/a** | 96 | 72 | 89 |
| Tuberculosis | **1** | **0** | **4** | **n/a** | 24 | 24 | 33 |
| *Vibrio Infections* | **1** | **2** | **3** | **52** | 13 | 12 | 18 |

*YTD up to April 30, 2022. n/a = not available at this time

Reportable diseases include confirmed and probable cases only. All case counts are current and provisional. Data is collected from the Merlin Reportable Disease database, surveillance systems maintained at the Florida Department of Health in Pinellas County, and Florida CHARTS