

Hepatitis A

Surveillance Protocol

Provider Responsibilities

1. Report all cases to your local health department within the timeframe indicated:

Sporadic case of hepatitis A- should be reported within 24 hours of diagnosis. Because hepatitis A is easily spread it is recommended that cases be reported as soon as possible after diagnosis. Include the following information:

- a) Patient's name, date of birth, address and phone number
- b) Demographic information including race, sex, age, and ethnicity
- c) Clinical symptoms
- d) Laboratory results

Outbreaks of hepatitis A- should be reported immediately (see definition of outbreaks in public health action section).

Laboratory Responsibilities

1. Report all positive anti-HAV IgM tests to the local health department in the patient's county of residence within 24 hours of result. Send or fax a copy of the laboratory result to the local health department if not already reported by electronic laboratory reporting (ELR). Include the following information:

- a) Patient's name, date of birth, address and phone number
- b) Demographic information including race, sex, age, and ethnicity
- c) Physician name, address and phone number
- d) Laboratory results, normal values and interpretation

Local Health Responsibilities

For investigation of sporadic cases:

Initial report must be filed within 24 hours of first notification

Upon receipt of a report of hepatitis A:

1. Look carefully at the laboratory result. Only persons with a positive IgM anti-HAV antibody are acutely infected with hepatitis A. Asymptomatic persons with a positive "total anti-HAV antibody" may have either recent or remote hepatitis A infection and do not need to be investigated or reported. HAV stands for "hepatitis A virus."

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2. Contact the provider who ordered the test to find out the reason for testing. If the person is not experiencing symptoms of acute hepatitis, there is no need for further investigation. Enter the information into WVEDSS and submit as “not a case”.

3. If the person is experiencing symptoms of acute hepatitis, complete the WVEDSS Hepatitis A Investigation Form. Use of the WVEDSS form will collect information for case ascertainment and prompt a complete and thorough investigation to include:
 - Date of onset of symptoms (date of jaundice is considered the most reliable sign) and type of symptoms
 - Liver function tests
 - IgM antibody to hepatitis A virus (anti-HAV IgM)
 - High risk occupation (food handler)
 - Travel history
 - Attendance or employment at daycare/childcare facility

4. Calculate the infectious period. Persons with acute hepatitis A are most infectious from two weeks before onset of symptoms to one week after onset. If jaundice is present, use the onset date of jaundice to calculate the infectious period. A hypothetical example follows:

Infectious Period for Hypothetical Case of Hepatitis A
(Shaded area indicates the infectious period)

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
5	6	7	8	9 (2 weeks before onset)	10	11
12	13	14	15	16	17	18
19	20	21	21	23 ONSET	24	25
26	27	28	29	30 (1 week after onset)	31	1

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5. Contacts Investigation/Management: Disease control is the first priority! Investigate *forward* to identify persons who were contacts of the case during the infectious period and may be at risk for acquiring infection from this case.

Administer appropriate post exposure prophylaxis (PEP) to high-risk contacts **if** it can be administered within two weeks of the last contact with the case while the case was infectious. High-risk contacts include: household contacts; sexual contacts; and persons who have shared illegal drugs

POST EXPOSURE PROPHYLAXIS RECOMMENDATIONS

Persons recently exposed to HAV (within 14 days) and who previously have not received hepatitis A vaccine...

- For healthy persons aged 12 mos to 40 years: 1 dose (age-appropriate) of single antigen HAV vaccine
- Persons aged > 40 yrs: IG (0.02mL/kg) is preferred; vaccine can be used if IG is not available
- Children < 12 mos, immunocompromised persons, persons with chronic liver disease, or persons for whom vaccine is contraindicated, IG (0.02mL/kg) should be used

Special recommendations for high-risk settings for transmission of hepatitis A:

Day care centers: PEP should be administered to all staff and attendees of day care centers or homes if...

- one or more cases of hepatitis A are recognized in children or employees, **or**
- cases are recognized in two or more households of center attendees.

In centers that do not provide care to children who wear diapers, PEP need be given only to classroom contacts of an index case-patient. If an outbreak is identified in a facility (i.e. hepatitis cases in two or more families), PEP also should be considered for members of households that have children (center attendees) in diapers.

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Foodhandlers: PEP should be administered to other foodhandlers at the same location. Because common-source transmission to patrons is unlikely, PEP administration to patrons may be considered **if**:

- the foodhandler directly handled ready to eat foods or foods after cooking during the infectious period **and**
- had diarrhea or poor hygienic practices **and**
- patrons can be identified and treated within two weeks after the exposure.

Contact DIDE immediately for consultation. Complete the Hepatitis A Supplemental Worksheet for Foodhandlers to accurately document the above criteria. Especially if considering administering PEP to patrons. The worksheet will be provided by DIDE .

In settings where repeated exposures to HAV may have occurred (e.g. institutional cafeterias), stronger consideration of PEP use may be warranted. In the event of a common-source outbreak, PEP should not be administered to exposed persons after cases have begun to occur because the two-week period during which PEP is effective will have been exceeded.

6. Investigate *backward*:

- Determine the incubation period for the case of hepatitis A. The incubation period is two to six weeks prior to onset.
- Identify any potential source. Symptomatic persons identified during contact investigation should be tested for anti-HAV IgM. Persons found to be positive for anti-HAV IgM should be investigated and reported as cases of hepatitis A according to the steps above.
- Identify any risk factors for HAV infection during the two- to six-week incubation period. Risk factors include:
 - Close contact with a person with confirmed or suspected hepatitis A
 - Employment or attendance in a nursery, day care center, or preschool
 - Travel outside of the United States or Canada
 - Illegal drug use
 - Number of male and female sexual partners

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- Investigate vaccination history and record as part of the investigation, including: Hepatitis A vaccination status (number of doses, dates of vaccination); missed opportunities for prevention/vaccination (Household contact of persons with acute hepatitis A; Sought medical care prior to foreign travel; or Ever in treatment for illegal drug use.)
7. Report cases of hepatitis A to the West Virginia Infectious Disease Epidemiology Program (IDEP) by electronically submitting a completed WVEDSS Viral Hepatitis Investigation Form and mail or fax all laboratory documentation to IDEP.

For investigation of a suspected outbreak:

Outbreak is defined as greater than expected numbers of cases reported during a certain time frame –OR- 2 or more epidemiologically linked cases from 2 or more households

Foodborne disease outbreak is defined as two or more persons who experience a similar illness after ingestion of a common food. Please note exceptions: one case of botulism, *vibrio cholerae* or chemical poisoning constitutes an outbreak.

1. Obtain case histories for preliminary reports as in sporadic cases above. Focus on possible common source exposures. Most small clusters (two to five individuals reported in a short time frame) of hepatitis A are due to person-to-person spread. This will become apparent through good contact tracing of cases of hepatitis A.

2. Contact DIDE and notify of suspected outbreak. Urgently if cases are not attributable to person-to-person spread or a common source exposure is found.

3. Consult outbreak investigation protocol for complete instructions on investigation of an outbreak.

<http://www.dhhr.wv.gov/oeps/disease/ob/Documents/protocols/community-outbreak-protocol.pdf>

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Epidemiologic investigations may be necessary in cases involving common source, daycare centers, or institutions. Consult with an epidemiologist at DIDE if a common source outbreak is suspected.

Disease Control Objectives

By timely and appropriate use of PEP, prevent cases resulting from a reported case of hepatitis A due to:

- Household or sexual contact with the case; or
- Contact with the case in a high-risk setting such as in day care or a commercial food establishment.

Prevent unnecessary transmission of hepatitis A through the early recognition and investigation of outbreaks so that control measures can be instituted in a timely fashion.

Disease Prevention Objectives

1. Reduce the incidence of Hepatitis A through education of:

- The general public about appropriate handwashing
- Food service workers about appropriate handwashing and not working while sick
- Day care operators about appropriate handwashing and exclusion of ill children and staff

2. Reduce the incidence of hepatitis A through appropriate use of the hepatitis A vaccine for:

- Persons traveling to or working in countries that have high or intermediate endemicity of infection
- Close contacts of international adoptees from endemic countries
- Men who have sex with men
- Illegal drug users
- Persons who have clotting factor disorders
- Persons with chronic liver disease including persons with chronic infection due to hepatitis B or C

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Disease Surveillance Objectives

- Determine the incidence of Hepatitis A in West Virginia
- Identify demographic characteristics of persons with hepatitis A.
- Detect any increase in the incidence of hepatitis A or any change in the usual pattern of disease transmission.

Public Health Significance

Worldwide, levels of endemicity are related to hygienic and sanitary conditions of geographic areas. In some southeastern Asian areas over 90% of the general population has serologic evidence of prior HAV infection. Age at infection varies with socioeconomic status and associated living conditions. In developing countries, where infection is endemic, most people are infected during the first decade of life. In industrialized countries, disease transmission is most frequent among household and sexual contacts of acute cases, and occurs sporadically in day care centers with diapered children, among travelers to countries where the disease is endemic, among injecting drug users and among men who have sex with men.. Because most children have asymptomatic or unrecognized infections, they play an important role in HAV transmission and serve as a source of infection for others.

Clinical Description

Hepatitis A is a viral illness that results in jaundice, fever, loss of appetite, nausea, malaise, and sometimes diarrhea. Affected individuals may have abdominal pain, an enlarged liver, dark urine, and light stool. The majority of infected infants and preschool children have no signs or symptoms of the disease; however, they are just as infectious as adults. In contrast to hepatitis B and C, fulminant disease or death occurs only rarely, and there is no carrier state. Severe disease is more likely to occur in the elderly or in persons with underlying liver disease (including hepatitis C); however, complete recovery is the rule.

Relapsing disease occasionally occurs. Chronic disease does not occur.

Etiologic Agent

Hepatitis A virus is a member of the *Picornaviridae* family of viruses, which includes the Enteroviruses and the Rhinoviruses. HAV is an RNA virus that is very hardy and can survive in a dried form for several months. Heating foods to >185 °F or disinfecting

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surfaces with 1:100 dilution of household bleach is necessary to inactivate HAV.

Reservoir

Humans, rarely chimpanzees, and certain other non-human primates.

Mode of Transmission

Most transmission is person-to-person by the fecal-oral route, including via sexual contact. Outbreaks have been related to contaminated water, foods contaminated by ill foodhandlers, raw or undercooked molluscs harvested from contaminated waters, and contaminated produce, including lettuce and strawberries. Outbreaks have also been associated with illegal use of injection and non-injection drugs. Rare cases of transmission have been associated with blood transfusion.

Incubation Period

The incubation period is 15 to 50 days, average 28 to 30 days.

Period of Communicability

The infectious period is from two weeks before the onset of symptoms to one week after onset. If jaundice is present, use the date of the onset of jaundice as the date of symptom onset.

Outbreak Recognition

Two or more cases of hepatitis A that are epidemiologically linked are considered an outbreak of hepatitis A. Outbreaks of hepatitis A occur in either point source or propagated form.

Point source outbreaks are those that result from one common exposure or infected person. Hepatitis A outbreaks of this nature are generally recognized after a larger than expected number of cases of hepatitis A are reported within a limited time period. Since the incubation period of hepatitis A is long, 15 to 50 days, and the infectious period can be as long as three weeks, the onset dates for cases with a common source are usually spread over several weeks. Examples include community-based outbreaks due to a single infected foodhandler or due to contaminated food items such as produce and shell fish.

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Propagated outbreaks are those that involve person-to-person transmission and result in two or more generations of cases. Hepatitis A outbreaks of this nature are generally recognized when more than one case occurs in an institution (day care centers), or links are recognized between cases in the community (e.g. friends in a mobile home park). Cases in these outbreaks usually have widely spaced onset dates (three to six weeks) with little clustering in time.

Case Definition

Clinical case definition

An acute illness with a) discrete onset of symptoms **and** b) jaundice or elevated serum aminotransferase levels

Laboratory criteria for diagnosis:

Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive

Case classification

Confirmed: a case that meets the clinical case definition and is laboratory confirmed
or

a case that meets the clinical case definition and occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms)

Preventive Interventions

- Always wash your hands after using the bathroom.
- Always wash your hands after cleaning the toilet.
- Always wash your hands after changing diapers.
- Always wash your hands after handling soiled towels or linens.
- Always wash your hands before fixing food or eating.
- If exposed to hepatitis A, ask your doctor about post exposure prophylaxis (PEP)

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Treatment

Supportive care as needed for dehydration and electrolyte abnormalities.

Surveillance Indicators

- Proportion of investigations with complete demographic information.
- Proportion of investigations with complete severity information (hospitalization and death)
- Proportion of investigations with complete information on high-risk occupations.
- Proportion of cases with complete risk factor investigation from two to six weeks before onset of symptoms.

References

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