Contents

CASE DEFINITION ........................................................................................................................................1
LABORATORY ANALYSIS ..........................................................................................................................2
EPIDEMIOLOGY ..........................................................................................................................................2
DISEASE OVERVIEW .................................................................................................................................3
NOTIFICATION TO PUBLIC HEALTH ......................................................................................................4
INVESTIGATOR RESPONSIBILITIES .........................................................................................................4
STANDARD CASE INVESTIGATION ..........................................................................................................5
  Case Investigation....................................................................................................................................5
  Contact Investigation ...............................................................................................................................7
  Isolation, Work and Daycare Restrictions .................................................................................................9
  Case Management ..................................................................................................................................9
  Contact Management ..............................................................................................................................9
  Environmental Measures .........................................................................................................................10
  Education .................................................................................................................................................10
MANAGING SPECIAL SITUATIONS .........................................................................................................11
  A. Outbreak Investigation .......................................................................................................................11
  B. Daycare Worker or Attendee ..............................................................................................................12
  C. Case Is a Food handler or Restaurant ...............................................................................................13
  D. Public Gathering .................................................................................................................................14
  E. Health Care Setting ..............................................................................................................................14
  F. Residential Facility or Institutional ....................................................................................................14
  G. Community Water Source ..................................................................................................................14
DATA MANAGEMENT AND REPORTING .............................................................................................15
  Forms to assist with Data Collection .......................................................................................................15
ADDITIONAL INFORMATION / REFERENCES .....................................................................................16
ATTACHMENTS .........................................................................................................................................16
  • Fact Sheet
  • Hepatitis A, Questionnaire (Sample)
  • Hepatitis A, Sample Letters

Attachments can be accessed through the Adobe Reader’s navigation panel for attachments. Throughout this document attachment links are indicated by this symbol: when the link is activated in Adobe Reader it will open the attachments navigation panel. The link may not work when using PDF readers other than Adobe or when opening the document in a web browser.
## Revision History:

<table>
<thead>
<tr>
<th>Date</th>
<th>Replaced</th>
<th>Comments</th>
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<tbody>
<tr>
<td>10/2019</td>
<td>11/2018</td>
<td>Updated Case Definition with CDC 2019 version. Updated Laboratory Analysis section. Reformatted Case Investigation Section. Clarification to definition of food service contacts under Contact Investigation and updates to Managing Special Situations for food handlers. References to EpiTrax tabs were updated to agree with the new system. Updated initial assessment worksheet and fact sheet.</td>
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<tr>
<td>11/2018</td>
<td>07/2018</td>
<td>Updated Contact Management – Use of IG and vaccine PEP. Contact Investigation – added caretakers to close contacts.</td>
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<tr>
<td>07/2018</td>
<td>05/2018</td>
<td>Update Contact Management – IG dosage.</td>
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<tr>
<td>05/2018</td>
<td>01/2016</td>
<td>Updated notification section with revised regulations. Edits to case investigation and fact sheet. Modified overall format.</td>
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<tr>
<td>01/2016</td>
<td>12/2014</td>
<td>Because of the CDC 2016 Definition, the following sections were updated: Case Definition, Laboratory Analysis, and Data Management.</td>
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<tr>
<td>11/2013</td>
<td>08/2012</td>
<td>New procedures to focus efforts on investigating acute cases and newly reported Hepatitis C cases in individuals 25 years and younger, as well as individuals 65 years and older.</td>
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<tr>
<td>08/2012</td>
<td>09/2011</td>
<td>Case definition changed to CDC 2012 version. Added comment under case investigation on identifying symptoms of acute hepatitis / newly diagnosed cases for <strong>ALL</strong> reported cases. Added new reporting forms. Updated fact sheet.</td>
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<tr>
<td>02/2012</td>
<td>-</td>
<td>Removed references to KS-EDSS. Updated to CDC 2012 Case Definition.</td>
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<tr>
<td>09/2011</td>
<td>01/2010</td>
<td>Updated to CDC 2011 Case Definition. Added Notification Section. Edited Data Management (Closing of Chronic Cases) and Standard Investigation (placing highest priority on investigation of acute cases and chronic cases &lt;35y.) Added physician letter.</td>
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Hepatitis A Virus
Disease Management and Investigative Guidelines

CASE DEFINITION (CDC 2019)

Clinical Description for Public Health Surveillance:
An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, abdominal pain, or dark urine)

AND
a) jaundice or elevated total bilirubin levels ≥ 3.0 mg/dL, OR
b) elevated serum alanine aminotransferase (ALT) levels >200 IU/L,

AND
c) the absence of a more likely diagnosis

Laboratory Criteria for Case Classification:
Confirmatory laboratory evidence:
• Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive, OR
• Nucleic acid amplification test (NAAT; such as Polymerase Chain Reaction [PCR] or genotyping) for hepatitis A virus RNA positive

Epidemiologic Linkage
Contact (e.g., household or sexual) with a laboratory-confirmed hepatitis A case within 15-50 days prior to onset of symptoms.

Criteria to Distinguish a New Case from an Existing Case
Relapsing hepatitis A cases should not be enumerated as new cases. A case should not be counted as a hepatitis A case if there is an alternate, more likely diagnosis.

Case Classification:
Confirmed:
• A case that meets the clinical criteria and is IgM anti-HAV positive §, OR
• A case that has hepatitis A virus RNA detected by NAAT (such as PCR or genotyping), OR
• A case that meets the clinical criteria and occurs in a person who had contact (e.g., household or sexual) with a laboratory-confirmed hepatitis A case, 15-50 days prior to onset of symptoms.

§ And not otherwise ruled out by IgM anti-HAV or NAAT for hepatitis A virus testing performed in a public health laboratory.

KDHE definitions for data management:
• Probable: A case with no clinical information that is IgM anti-HAV positive only.
• Suspect:
  o A laboratory report with a positive total Hepatitis A Immunoglobulin (total anti-HAV) with no further clinical information.
  o A clinical compatible case without epi-link or laboratory confirmation
LABORATORY ANALYSIS

- Serology testing of blood, 3-5 ml in clot separator tubes, or the separated serum.
  - IgM anti-HAV:
    - Primary method for diagnosis of HAV infection.
    - Detected 5-10 days before onset of illness, can be detected up to 6 months after illness onset, but can be positive up to a year after infection
    - Has been detected 2-3 weeks after administration of vaccine.
    - False-positive results are more likely to occur with no symptoms of acute hepatitis A and in those who are older.
  - IgG or total anti-HAV (IgG/IgM):
    - Indicates past infection and immunity. Not diagnostic for acute infection.
    - If patient is symptomatic, anti-HAV IgM testing should be performed
- HAV RNA detection in blood or stool specimen(s): Nucleic acid amplification (NAAT) methods, such as PCR or genotyping.
  - Not usually available for diagnostic purposes but some private labs may offer.
  - Arrangements can be made for genotyping at CDC for outbreak investigations.
    - Prior to sending specimens for testing, the Bureau of Epidemiology and Public Health Informatics (BEPHI) must be contacted at 1-877-427-7317.

For additional information on collection or transport, refer to KHEL’s Virology Serology Laboratory Specimen Guidelines – Blood/Serum tests or call KHEL at (785) 296-1620.

EPIDEMIOLOGY

Hepatitis A has a worldwide distribution. In countries where sanitation is poor, infection occurs at an early age; adults are usually immune, and outbreaks are rare. In developed countries, disease transmission can occur in daycare settings with diapered children and among household and sexual contacts of acute cases. At-risk groups include injection drug users, men who have sex with men (MSM), and travelers visiting endemic countries. 15%–30% secondary attack rates have been reported in households, with higher rates of transmission occurring in households with infected children. Attack rates among of patrons exposed to HAV-infected food handlers are generally low.
DISEASE OVERVIEW

A. **Agent:**
   Hepatitis A virus, an RNA virus in the picornavirus family.

B. **Clinical Description:**
   Abrupt onset, with fever, malaise, anorexia, nausea, abdominal discomfort and, sometimes, diarrhea. Jaundice, dark urine and clay-colored stool follow a few days later. Infections range from asymptomatic to disabling illness that may last several months but is seldom fatal and not chronic.
   - Jaundice will occur in:
     - < 10% of children < 6 years
     - 40%–50% of children age 6–14 years
     - 70%–80% of persons >14 years
   - Typically, symptom severity increases with age and duration of infection is several weeks. Prolonged, relapsing symptoms may occur for up to 6 months to 1 year in about 15% of cases. Clinically indistinguishable from other types of hepatitis and must be diagnosed with laboratory tests.

C. **Reservoirs:**
   Humans

D. **Mode(s) of Transmission:**
   Direct and indirect person-to-person spread via the fecal-oral route. Rarely, blood-borne transmission can occur during the viremic phase of the disease.

E. **Incubation Period:**
   Range 15-50 days; average 28-30 days.

F. **Period of Communicability:**
   Most infectious from 1-2 weeks before symptom onset (jaundice or elevated liver enzymes) to about 2 weeks after non-jaundice symptom onset or 1 week after onset of jaundice. The greatest amount of viral shedding occurs 2 weeks prior to symptom onset. Up to 10% of persons with hepatitis A may experience a biochemical and/or clinical relapse during the 6 months after acute illness, and virus can be shed in stool during relapses.

G. **Susceptibility and Resistance:**
   Susceptibility is general. Immunity after infection probably lasts for life.

H. **Treatment**
   No specific therapy is available. Supportive care.
NOTIFICATION TO PUBLIC HEALTH AUTHORITIES

Suspected cases of Hepatitis A (IgM antibody positive results only) shall be reported within 24 hours, except if the reporting period ends on a weekend or state-approved holiday, the report shall be made by 5:00 p.m. on the next business day after the 24-hour period:

1. Health care providers and hospitals: report to the local public health jurisdiction
2. Local public health jurisdiction: report to KDHE-BEPHI (see below)
3. Laboratories: report to KDHE-BEPHI (see below)

Kansas Department of Health and Environment (KDHE)  
Bureau of Epidemiology and Public Health Informatics (BEPHI)  
Phone: 1-877-427-7317  Fax: 1-877-427-7318

Further responsibilities of state and local health departments to the CDC:
As a nationally notifiable condition, Hepatitis C cases require a ROUTINELY NOTIFIABLE report to the Center of Disease Control and Prevention (CDC).

1. ROUTINE reporting requires KDHE-BEPHI to file an electronic report for within the next reporting cycle.
   • KDHE-BEPHI will file electronic reports weekly with CDC.
2. Local public health jurisdiction will report information requested as soon as possible, ensuring that the electronic form is completed within 3 days.

INVESTIGATOR RESPONSIBILITIES

1) Report all Hepatitis A cases to the KDHE-BEPHI.

2) Contact medical provider to confirm diagnosis using current case definition.  
   For diagnosed cases, completed the following within 1 day of notification:
   • Collect all information requested in Case Investigation Step 1).
   • Ensure that case/proxy is aware of the diagnosis.

3) Continue case investigation with patient interview completed within 3 days of notification.

4) Conduct contact investigation to identify at-risk contacts and other cases.

5) If needed, conduct case management and contact management.
   • Review Isolation and Work restrictions for specific measures.
   • The earlier prophylaxis is administered, the more effective it is.
   • Prophylaxis ≥2 weeks after exposure may not prevent illness.
   • Always promote vaccination to protect against future exposures

6) Identify whether the source of infection is major public health concern and report concerns immediately to KDHE at 1-877-427-7317. Concerns may be:
   • Food handler, daycare, or a direct patient care provider involved.
   • KDHE provided immunoglobulin needed for prophylaxis.
   • Outbreak situation.

7) Record data, collected during the investigation, in the KS EpiTrax system.

8) As appropriate, use the notification letter(s) and the disease fact sheet to notify the case, contacts and other individuals or groups.
STANDARD CASE INVESTIGATION AND CONTROL METHODS

Case Investigation

1) Contact the medical provider who ordered testing and obtain clinical information:

- □ Why was the patient tested? [Investigation Tab – Clinical Information]

- □ Is Hepatitis A being diagnosed?
  - o If yes, record diagnosis date. [Clinical Tab]

- □ Review and request additional lab results as needed:
  
<table>
<thead>
<tr>
<th>LABORATORY RESULTS</th>
<th>Result</th>
<th>Collection Date</th>
</tr>
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<tbody>
<tr>
<td>ALT Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilirubin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HAV IgM Serology</td>
<td></td>
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  *Total HAV test: for a symptomatic hepatitis case request anti-HAV IgM testing be performed*

- □ Request pertinent clinical information:
  
<table>
<thead>
<tr>
<th>SYMPTOMS(S)</th>
<th>Onset Date</th>
</tr>
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<tbody>
<tr>
<td>Acute hepatitis symptoms?</td>
<td>Yes No Onset Date</td>
</tr>
<tr>
<td>Jaundice (yellow eyes or skin)?</td>
<td>Yes No Onset Date</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Yes No Onset Date</td>
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</table>

- □ Request immunization history or information why the case is not immunized or fully immunized.

- □ Has the patient ever received immune globulin (IG)?

- □ Does the patient have an underlying immunodeficiency?

- □ Record current patient status, including:
  - o Hospitalized (location, duration, reason)
  - o Death (record date of death)
  - o Pregnancy status [Clinical Tab]

- □ Ask about high-risk situations, settings, occupations, and contacts. Refer to High-risk Contacts definition in Contact Investigation.

- □ Determine if any exclusion recommendations were made. Refer to Isolation and Restriction Section for guidance.

- □ Determine whether household/high risk contacts received or were recommended chemoprophylaxis. Refer to Contact Management Section.

- □ Verify that the patient is aware of the diagnosis. Stress that public health must interview the patient.

- □ Finally, verify the patient demographic and contact information. [Demographic Tab]
  
  *Birth date, gender, race/ethnicity, address, phone numbers*
2) Perform a patient interview assessing 6 weeks prior to 2 weeks after illness onset:

- List patient’s occupations, especially:
  - Food handler | Yes | No
  - Healthcare worker | Yes | No
  - Group living facility | Yes | No
  - Daycare / nursery association | Yes | No
  - School association | Yes | No
  - Household contact of any of above | Yes | No

- Record patient’s main occupation(s) during this period of 6 weeks prior to and 2 weeks after illness onset.
- Did the patient work or attend locations while ill or potentially infectious? (If yes, list locations with dates.)
- List facilities or any high-risk settings of concern with address and phone numbers.

- Any travel out of county, out of state, or out of U.S. during 2 weeks to 6 weeks prior to onset of illness.
  - List location, and arrival and departure dates.

- In the 3 months prior to illness onset, did anybody in the household travel? (If yes, list location and dates.)
- In the 2 weeks to 6 weeks prior to illness onset, were any gatherings or group events attended?
- What were the sources of food eaten 2 weeks to 6 weeks prior to onset of illness?
  - At home: stores were used for groceries.
  - Away from home: stores and restaurants.
  - Was any of the following consumed alone or as an ingredient of a dish?
    - Fresh fruit
    - Frozen fruit
    - Seafood

- Was a night spent at any of the following locations?
  - Friend or family member’s home
  - Shelter
  - Street, park, or other outdoor location
  - Jail or prison
  - Other location(s) away from home

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[Investigation Tab]
- Onset date: date of earliest symptom onset (With unclear onset, use the collection date of first abnormal ALT.)
- Incubation period: 2 weeks to 6 weeks prior to onset.
- Infectious period: 14 days prior to illness onset and 14 days after onset (or 7 days after jaundice onset, if present)
- Facilities of concern are where the virus may have been acquired or could be transmitted.

[Investigation Tab – Travel History]
- Travel history helps to determine where the infection was most likely was imported from. (Indigenous / out-of-county, state, or U.S.)

[Investigation Tab - Contacts]
- In the 2 weeks to 6 weeks prior to illness onset, were any gatherings or group events attended?

[Investigation Tab – Food Sources and Food Exposures]
- What were the sources of food eaten 2 weeks to 6 weeks prior to onset of illness?
  - At home: stores were used for groceries.
  - Away from home: stores and restaurants.
  - Was any of the following consumed alone or as an ingredient of a dish?
    - Fresh fruit
    - Frozen fruit
    - Seafood

[Investigation Tab – Exposures]
- Provide details including name, location, and dates or length of stay for all non-travel-related overnight stays.
Complete Sexual Exposure & Drug use for those >16 yrs.
- Review sexual exposure 2 to 6 weeks prior to onset:
  - How many male sex partners?
  - How many female sex partners?
- Did patient use any recreational drugs prior to onset?
  - If yes to drug use, 2 to 6 weeks prior to onset:
    → Were any of the drugs injected?
    → Were drugs acquired from a new dealer?
    → Was a new or different drug started?

For all cases, complete the interview by:
- Did the patient have contact with any person who had hepatitis A or hepatitis-like symptoms.
  - Determine if the other “cases” have been reported to KDHE.
  - Notify KDHE of any suspected outbreaks.
- Ensure all activities – including dates and locations – have been accurately recorded to assist with the contact investigation.
- Ensure any restrictions necessary to prevent spread of disease have been explained and will be followed.

Contact Investigation

1) Review the patient’s occupation and activities during the period of 2 weeks before illness onset until 1 week after jaundice onset or, with no evidence of jaundice, 14 days after onset of any acute symptoms.

2) Contacts to consider during the investigation:
- Close personal contacts:
  - Household and sexual contacts.
  - Persons who have shared illicit drugs with an infectious case.
  - Caretakers not using appropriate personal protective equipment.
  (Other types of ongoing, close contact are evaluated on case-by-case basis.)
- High-risk contacts: those whose daycare association, occupation, or personal activities could result in further transmission of the virus, or those more likely to experience adverse outcomes from infection
- Food Service Contacts:
  - Co-workers who work the same shift as the infected food handler.
  - Patrons of the establishment of an infected food handler if:
    ✓ The employee worked while infectious in a facility whose sanitation practices are deficient as determined by facility inspections, or
    ✓ All the following conditions were present:
      (1) The food handler worked while infectious and
      (2) Had poor personal hygiene or diarrhea while working and
      (3) Had opportunity to have bare-hand contact with ready-to-eat food.
• Daycare / Childcare Facility Contacts:
  - Daycare serving only toilet trained attendees who are over 2 years of age: Only consider the direct caregivers and classmates of the patient.
  - All employees and attendees if one of the following occur:
    (1) Non-toilet trained attendees,
    (2) An additional employee or attendee is found to be infected, or
    (3) Household contacts of two or more separate attendees are infected.
  - All employees, attendees, and household contacts of diapered attendees of a daycare in which outbreak recognition is delayed by ≥3 weeks.
  - Contacts of infected food handlers at daycares:
    (1) Individuals who worked the same shift in the kitchen with an infectious food handler are considered contacts.
    (2) Persons who ate food prepared by an infected food handler, especially if it was ready-to-eat foods the infected person handled with bare hands or the person was working with diarrhea.

• Schools, Hospital/Long-Term Care Facilities and Other Work Setting:
  - Investigate contacts only when there is epidemiological evidence for potential transmission in the school, healthcare facility, or work setting.
  - At-risk contacts are those who share similar exposure activities with case (e.g. common source food/drink) or those who received oral hygiene care or oral medication from the index case.

3) If a risk of transmission exists, obtain the names and contact information of those who are considered at-risk contacts.

4) Create a line listing of contacts at-risk of developing disease. [Contact Tab]
   - Collect information on each primary contact’s hepatitis A immunization status, age, and any symptoms of hepatitis.
   - Collect information on the contact’s occupation.
   - Note any daycare attendance. (Include facility name and location.)
   - Note any high-risk contacts (food-handler, daycare, other personal habits that may result in spread infection).

5) Follow-up symptomatic contacts as suspect cases.
   - A contact meeting the clinical case definition is considered a confirmed.

6) Institute control measures for food employee contacts as indicated under Isolation, Work and Daycare Restrictions.

7) Follow-up with household and close contacts (especially high-risk contacts) as recommended under Contact Management.
Isolation, Work and Daycare Restrictions

*K.A.R 28-1-6 for Hepatitis A virus:*

**Control of Cases**
- For each person hospitalized with a case, contact precautions shall be followed for the duration of the acute illness.
- Each person with a case shall be excluded from working as a food employee, health care worker, and attending or working in a childcare facility for 14 days following the onset of illness or seven days following the onset of jaundice.

**Control of Contacts**
- Each susceptible contact shall be excluded from working as a food employee, health care worker, and attending or working in a child care facility for 28 days from last exposure to an infectious case unless a prophylactic dose of immune globulin (IG) or a hepatitis A vaccine is administered within 14 days of exposure to a person with an infectious case.

**Case Management**

1) Educate the patient on measures to avoid disease transmission.

2) Follow-up to assure compliance with recommended restrictions or exclusions if case is involved in care of young children, healthcare, or food handling as outlined in K.A.R. 28-1-6.

3) If there is concern that the patient will not follow enteric precautions and may put others at risk of developing disease, consider restrictions or exclusion from at-risk settings that may not be specified in K.A.R. 28-1-6.

**Contact Management**

1) If a contact listing was created because of the high possibility of disease transmission, follow-up with the listed contacts.

2) Protection or prophylaxis:
   - Contacts who are not immune to hepatitis A should be administered a single dose of single-antigen hepatitis A vaccine or immune globulin (IG) (0.1 ml/kg), as soon as possible\(^2\):
     - Children aged <12 months and persons for whom vaccine is contraindicated: IG alone should be used.
     - Healthy person >12 months: administer a single-antigen hepatitis A vaccine at the age-appropriate dose should be given as soon as possible.
     - Person >40 years: in addition to the hepatitis A vaccine, IG may be administered based on a health providers’ assessment. (Refer to MMWR article [67(43)] and Supplementary Risk Assessment)
     - Immunocompromised persons and persons with chronic liver disease, both vaccine and IG should be given simultaneously at separate injection sites.

\(^1\) Verify dosage using package insert; it was previously updated on July 2017.
\(^2\) The earlier prophylaxis is administered the more effective it is at preventing illness. At >2 weeks after exposure, illness may not be prevented and exclusions may be necessary, but vaccination can still protect against future exposures.
3) KDHE provided Hepatitis A vaccine and IG can be used, after:
   • For vaccine:
     - The contact's insurance status is assessed and KDHE is notified at 1-877-427-7317 to obtain approval for the use of KDHE provided vaccine.
     - *KDHE will reimburse or provide adult vaccine only if the contact has no insurance or is unable to pay for the vaccine.*
   • For IG:
     - A request for IG is sent to KDHE and approved at 1-877-427-7317.
       o Provide the contact's weight to determine number of vials required.
     - *Note: KDHE will not provide IG for pre-exposure prophylaxis. If IG is required before travel, it must be ordered through a private provider.*

4) Enforce work restrictions on those susceptible contacts that did not receive a prophylactic dose of immune globulin (IG) or a hepatitis A vaccine is administered within 14 days of exposure to a person with HAV.

5) Provide education on avoiding further exposures and to ensure proper medical care is obtained and precautions taken if symptoms develop.
   • HAV-exposed food handlers that have been placed on restrictions at work must receive additional instruction on:
     - Specific requirements of working while under restrictions;
     - Hepatitis A symptoms and preventing the transmission of infection;
     - Proper hand washing procedures; and
     - Protecting ready-to-eat food from contamination by bare hand contact.

6) Symptomatic contact:
   • Consider a confirmed case and promote to CMR in EpiTrax;
   • Initiate any work or daycare restrictions;
   • Encourage to seek medical evaluation.

7) Follow-up of contacts may be needed to assure no disease transmission and to encourage those who received a single dose of vaccine to complete the series.

8) Report the number of susceptible contacts who received vaccination(s) or IG.

9) Report any adverse event that occurs after the administration of a vaccine to Vaccine Adverse Events Reporting System at [http://vaers.hhs.gov/index](http://vaers.hhs.gov/index).

10) Report the final disposition of each contact investigated. [Contact]

### Environmental Measures

If a commercial food service facility, daycare center, health care facility or public water supply is implicated, coordinate with the proper regulatory agency.

### Education

1) Advise cases and contacts on measures to avoid future exposures.
   • Instruct patient and family members on measures to prevent transmission.
   • Emphasize hand washing, cleaning fingernails and personal hygiene, especially after defecation and diaper changing and before food handling.
   • Contacts should be knowledgeable of signs and symptoms of hepatitis A in children and adults and understand that persons may be infected and infectious to others without any associated illness.

2) Use the "[Public Health Fact Sheet on Hepatitis A](http://www.kdheKS.gov/health/illness/hep/afacts.htm)" to assist with education.
MANAGING SPECIAL SITUATIONS

A. Outbreak Investigation:

Outbreak Definition: The occurrence of ≥ 2 cases of Hepatitis A in association with a common exposure is considered an outbreak.

- Notify KDHE immediately, 1-877-427-7317.
- Active case finding will be an important part of any investigation.

Further guidance on investigating outbreaks including Hepatitis A cases can be found at: [www.cdc.gov/hepatitis/Outbreaks/index.htm](http://www.cdc.gov/hepatitis/Outbreaks/index.htm).

- Consider an outbreak when the expected number of cases has been exceeded or there is connection between multiple cases by space and time.
  - Most outbreaks are community-based and involve identified risk groups, including: daycare staff and attendees, men having sex with men, IV drug users, or those living in unsanitary conditions.
  - Common source outbreaks also occur, often involving contamination of food or beverage by an infected food handler.
- A foodborne disease outbreak is defined in the following ways:
  - ≥ 2 individuals (from different households) who experience a similar illness after eating a common food or food from a common place.
  - An unexplained, unexpected increase of cases and food is a likely source.
- Notify KDHE immediately, 1-877-427-7317.

- Organize and maintain all data related to outbreak:
  - Construct and maintain **Case Listing** which includes:
    - Record number,
    - Name, DOB (or age) and any other specific demographics,
    - Symptoms; onset date and time; recovery date and time
    - Source of exposure (i.e., record number, setting, classroom),
    - Specimen collection date and lab results,
    - Case status (i.e., confirmed, probable, suspect)
  - Construct and maintain a **Contact Listing** which includes:
    - Name, DOB (or age) and contact information
    - Type of exposure
    - Evaluation for illness and immunity (note referrals or pending labs)
    - Any food handling, childcare or health care associations
    - Any exclusions or restrictions
    - Any prophylaxis or reason for no receipt
    - Results of follow-up after 50 days post-exposure of those not receiving prophylaxis
  - Use tracking tools (logbooks, chalkboards or databases) to record actions needed for each suspected case (i.e., deliver stool kit, call)
  - All epidemiological data will be recorded and reported through EpiTrax.

- Identify population(s) at risk of infection based on the scope and spread of the outbreak; use the information collected in case investigations to define:
  - **Person**: who is or is at-risk of becoming ill (age, gender, occupations).
  - **Place**: where are the cases or contacts (i.e. classrooms, address) and to what settings or activities are they associated.
  - **Time**: when did it start and is it still going on.
• Enhance surveillance and perform active case finding:
  – Maintain active surveillance with medical providers serving the affected communities for two incubation periods from last confirmed case.
• Outbreak control:
  – Target efforts on those population(s) identified as at risk.
  – Establish protocols for control measures necessary for all likely situations (i.e., exposure in child care center, school).
• Contact investigation and prophylaxis may require extensive resources and planning, depending on the number of at-risk contacts.
• Coordinate with the public information officer (PIO).

B. Daycare Worker or Attendee:

For one case, proceed with the following activities:
• Coordinate the following activities with the local daycare inspector.
• Interview the operator and inspect attendance records to identify any suspect cases among staff, attendees or household contacts of attendees.
• Ensure restrictions and/or exclusions for cases are initiated as outlined under “Isolation, Work and Daycare Restrictions”.

If >1 case among attendees/workers or in >2 households of center attendees:
Illness among adult staff members or household contacts is often the first indication of daycare outbreaks since many HAV in young children is asymptomatic. In the absence of plausible alternative hypotheses, two or more reported cases from different households linked to the same facility should be investigated as an outbreak associated with a daycare facility.

1) Contact KDHE; refer to recommendations for “Managing Special Situation – Outbreak Investigations”.

2) Susceptible staff members and attendees should receive PEP:
  – Centers that do not provide care to children who wear diapers may have PEP administered to only classroom contacts of the index case.
  – Centers that do provide care to children in diapers should have PEP administered to all staff members and attendees.

3) In outbreak settings with hepatitis A cases in ≥3 families, PEP should also be considered for members of households that have attendees in diapers.

4) Affected facilities should be discouraged from accepting new children for 50 days after onset of the last case, unless the child has been vaccinated. Transferring children to other facilities should also be discouraged during this period.

5) Conduct ongoing surveillance for hepatitis-like illness among households connected to the facility for 50 days after onset of the last case.

Note: All children in a child care facility, family day care home or preschool or child care program operated by a school are required to have hepatitis A immunizations. Reference K.A.R. 28-1-20 for immunization requirements for the current year; on-line at: www.kdheks.gov/immunize/schoolInfo.htm
B. Case Is a Food handler or Restaurant Is Implicated:

1) Immediately contact KDHE about any food establishment association, and KDHE will manage communications with the Kansas Department of Agriculture (KDA) Division of Food Safety and Lodging at (785) 296-5600.

2) The assigned food facility inspector will be able to perform the following:
   - Interview the manager to identify any other possible Hepatitis A illness among staff or patrons within the past 6 weeks.
   - Inquire into any recent complaints from other patrons.
   - Report findings to KDHE (or local health department, if requested).

3) The local health department will be responsible for coordinating:
   - Collection of serum samples from any staff or patrons with history of jaundice illness within the past 2 weeks.
   - Execution of proper work restrictions or exclusions.
     - Instruct case-patient on necessary work restrictions or exclusion and that the facility manager will be contacted.
     - Contact the facility manager about employee’s restriction or exclusion.
     - Approve reinstatement of food handler(s) to full duties after necessary conditions have been met.

If there is a food handler case or >1 case associated to the facility:

1) A facility inspection is performed by the assigned local food inspector.

2) The local health department will:
   - Consult with the Local Health Officer and KDHE to discuss the need for public communication, such as a press release.
   - Assure vaccine or IG is provided within two weeks of exposure to susceptible co-workers who work the same shift as an infected food handler.
   - Work with the local food inspector to evaluate the risk to patrons if a food handler was infectious.
     - The risk to patrons is determined by the following:
       - A food handler worked while infectious,
       - Had the opportunity to have bare-hand contact with ready-to-eat food, and
       - Had poor personal hygiene or diarrhea

*Note: Past and current inspection reports of a facility’s sanitation practices may be used to evaluate the personal hygiene of workers.

In settings, in which >1 employee is infected or if repeated patron exposures to HAV might have occurred, such as institutional cafeterias, stronger consideration of PEP use might be warranted.

- Initiate a patron contact investigation if:
  - Warranted based on the above risk assessment performed in conjunction with KDHE, and
  - Patrons can be identified and treated within 2 weeks of exposure.

- Surveillance for additional illness among staff and patrons should continue for 6 weeks after last exposure to an infectious source.

- Initiate an outbreak investigation and notify KDHE-BEPHI, if:
  - Two or more cases are from different households, or
  - There are additional cases within the six-week period.
C. Public Gathering Implicated:
   1) Sources may include food contaminated by an infectious person or a contaminated food source.
   2) Conduct active case finding; ask about recent illness among those who attended and those who prepared the food that was consumed.
   3) If a food establishment or distributor is implicated as the source of infection refer above to “Managing Special Situations – Case Is a Food handler or Restaurant Is Implicated” or
   4) If an outbreak is suspected refer “Managing Special Situations – Outbreak Investigations”.

D. Health Care Setting:
   Nursing home: Crowded communal living conditions and age-related risk factors including incontinence may allow transmission of enteric pathogens. Elderly are also at risk for more severe illness from hepatitis infections.
   1) Coordinate investigation efforts through nursing home administrator.
   2) Consider food and medication handling practices.
   3) Kansas Department of Aging should be notified if a nursing home, adult care, or long-term care facility is involved in an outbreak.

E. Residential Facility or Institutional Outbreaks:
   1) Special measures may be required, including separate housing for case-patients and new admissions and vigorous program of supervised hand washing.
   2) Groups that include non-toilet trained or young children, those who are mentally deficient, and those without an adequate water or hand washing facilities are the most difficult to control.
   3) Coordinate efforts with institutional medical staff and appropriate regulatory agency. (For example, the Kansas State Department of Corrections should be notified of outbreaks involving state prisons.)
   4) Refer to “Managing Special Situations – Outbreak Investigations”.

F. Community Water Source Implicated:
   Consult with the State epidemiology staff when the investigation implicates that a community drinking water system.
DATA MANAGEMENT AND REPORTING TO THE KDHE

A. Accept the case assigned to the LHD and record the date the LHD investigation was started on the [Administrative] tab.

B. Organize and collect data, using appropriate questionnaires, case listings (spreadsheets), and investigation forms, including:
   - The Hepatitis A Form can be used to collect and enter required information.
   - Investigators can collect and enter all required information directly into EpiTrax [Investigation], [Clinical], and [Demographics] tabs without using the paper forms.
   - During outbreak investigations, refer to guidance from a KDHE epidemiologist for appropriate collection tools.

C. Report data collected in EpiTrax.
   - Verify that all data requested on the applicable forms has been recorded on an appropriate EpiTrax [tab], or that actions are completed for a case lost to follow-up as outlined below.
   - Some data that cannot be reported on an EpiTrax [tab] may need to be recorded in [Notes] or scanned and attached to the record.
   - Paper report forms do not need to be sent to KDHE after the information is recorded in EpiTrax. The forms should be handled as directed by local administrative practices.

D. If a case is lost to follow-up, after the appropriate attempts to contact the case have been made:
   - Indicate ‘lost to follow-up’ on the [Administration] tab with the number of attempts to contact the case recorded.
   - Record at least the information that was collected from the medical records.
   - Record a reason for ‘lost to follow-up’ in [Notes].

E. After the steps listed under Case Investigation have been completed, record the “Date LHD investigation completed” field located on the [Administrative] tab.
   - Record the date even if the local investigator’s Case or Contact Management for the contact is not “Complete”.

F. Once the entire investigation is completed, the LHD investigator will click the “Complete” button. This will allow the LHD Administrator to review the case.
   - The LHD Administrator will then “Approve” or “Reject” the CMR.
   - Once a case is “Approved” by the LHD Administrator, BEPHI staff will review the case to ensure completion before closing the case.

<table>
<thead>
<tr>
<th>Form Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Patient Assessment – Hepatitis A</td>
<td>To assist with screening of suspect Hepatitis A patients and collection of initial information important to case investigation.</td>
</tr>
<tr>
<td>Hepatitis A Sample Questionnaire</td>
<td>Shown to be useful in the investigation of past outbreaks of Hepatitis A; can be modified to meet the needs of the investigator.</td>
</tr>
<tr>
<td>KDHE Hepatitis A Investigation Form</td>
<td>Contains all data requested in the EpiTrax surveillance system. For official reporting to the KDHE. (Data collected is reported electronically.)</td>
</tr>
</tbody>
</table>
ADDITIONAL INFORMATION / REFERENCES


C. Case Definitions: www.cdc.gov/nndss/

D. Prevention of Hepatitis A Through Active or Passive Immunization, CDC 2006: www.cdc.gov/mmwr/preview/mmwrhtml/rr5507a1.htm

E. Pink Book: Epidemiology and Prevention of Vaccine-Preventable Diseases. Available at: www.cdc.gov/vaccines/pubs/pinkbook/default.htm

F. Manual for the Surveillance of Vaccine-Preventable Diseases: Available at: www.cdc.gov/vaccines/pubs/surv-manual/default.htm

G. KDHE Viral Hepatitis: www.kdheks.gov/sti_hiv/hepatitis.htm

H. Recommendations and guidelines:
   • Update: Prevention of Hepatitis A After Exposure to Hepatitis A Virus and in International Travelers. Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2007: www.cdc.gov/mmwr/PDF/wk/mm5641.pdf
   • Updated Dosing Instructions for Immune Globulin (Human) GamaSTAN S/D for Hepatitis A Virus Prophylaxis, 2017: www.cdc.gov/mmwr/volumes/66/rr/mm6636a5.htm
   • Update: Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Postexposure Prophylaxis and for Preexposure Prophylaxis for International Travel, 2018: www.cdc.gov/mmwr/volumes/67/rr/mm6743a5.htm


J. Additional Information (CDC): www.cdc.gov/hepatitis

ATTACHMENTS

To view attachments in the electronic version:
1. Download, save, and open attachment.
2. Go to <View>; <Navigation Pane>; <Attachments> – OR – Click on the “Paper Clip” icon at the left.
3. Double click on the document to open.
Hepatitis A Initial Assessment for the Local Investigator

( Goal: To rapidly confirm a case and to determine potential number of contacts needing PEP. )

<table>
<thead>
<tr>
<th>SYMPTOM(S)</th>
<th>Onset Date</th>
<th>Acute symptoms include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hepatitis symptoms?</td>
<td>Yes No Unk.</td>
<td>Abdominal Pain Anorexia Dark Urine Diarrhea</td>
</tr>
<tr>
<td>Jaundice (yellow eyes or skin)?</td>
<td>Yes No Unk.</td>
<td>Fatigue Fever Headache Nausea Vomiting</td>
</tr>
<tr>
<td>Diarrhea?</td>
<td>Yes No Unk.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LABORATORY RESULTS</th>
<th>Result</th>
<th>Collection Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT Level</td>
<td></td>
<td></td>
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<tr>
<td>Bilirubin</td>
<td></td>
<td></td>
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<tr>
<td>IgM Serology</td>
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</tbody>
</table>

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<thead>
<tr>
<th>TRAVEL / VISITOR TRAVEL HISTORY</th>
<th>Date(s)</th>
<th>Arrive/Depart</th>
<th>Location (To / From)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of USA</td>
<td>Yes No Unk.</td>
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<tr>
<td>Out of State</td>
<td>Yes No Unk.</td>
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<tr>
<td>Out of County</td>
<td>Yes No Unk.</td>
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</table>

<table>
<thead>
<tr>
<th>INITIAL EPI INFORMATION</th>
<th>Date(s)</th>
<th>Location(s)</th>
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</thead>
<tbody>
<tr>
<td>Food handler</td>
<td>Yes No Unk.</td>
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<tr>
<td>Daycare / nursery association</td>
<td>Yes No Unk.</td>
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<tr>
<td>Shelter / group type facility</td>
<td>Yes No Unk.</td>
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<tr>
<td>Homeless / other high-risk activity</td>
<td>Yes No Unk.</td>
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<tr>
<td>Contact w/ Hep A case</td>
<td>Yes No Unk.</td>
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<tr>
<td>Household contact of any of above</td>
<td>Yes No Unk.</td>
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</table>

Collect additional information, as requested, on the Hep A Supplemental Form Epidemiologic Information section.

<table>
<thead>
<tr>
<th>Hepatitis A Vaccination History</th>
<th>Date(s)</th>
<th>Type</th>
<th>Manufacturer</th>
<th>Lot</th>
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<tbody>
<tr>
<td>Dose 1</td>
<td>Yes No Unk.</td>
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<tr>
<td>Dose 2</td>
<td>Yes No Unk.</td>
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ACTIVITIES DURING INFECTIOUS PERIOD

(Mark onset date (day 0) on 3rd row of chart – Count back 14 days and then forward 7 or 14 for infectious period)

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
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Infectious Period: 14 days prior to illness onset and 14 days after onset (or 7 days after jaundice onset, if available)  09/2019
**Hepatitis A Initial Assessment for the Local Investigator**  
*Goal: To rapidly confirm a case and to determine potential number of contacts needing PEP.*

When evaluating household contacts, did the case prepare or handle food which was consumed at any gatherings by people outside of case’s household (e.g. school or dinner parties, potlucks, bringing food to worksite, etc.)?  
☐ Yes ☐ No ☐ Unk

If yes, please list:

<table>
<thead>
<tr>
<th>Occasion &amp; Locations</th>
<th>Food(s) handled</th>
<th>Date</th>
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<tr>
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**Listing of any at risk facilities (group homes, shelters, correctional facilities):**

<table>
<thead>
<tr>
<th>Facility Name/Address</th>
<th>Phone</th>
<th>Person to contact</th>
<th>Estimate number of affected persons</th>
<th>First Exposure Date</th>
<th>Last Exposure Date</th>
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**Close Contact Listing -- Individuals (Administer PEP within 2 weeks of last exposure)**

<table>
<thead>
<tr>
<th>Type of Exposure</th>
<th>Phone</th>
<th>Name</th>
<th>Age</th>
<th>Immune?</th>
<th>Last Exposure Date</th>
<th>PEP?</th>
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**Infectious Period:** 14 days prior to illness onset and 14 days after onset (or 7 days after jaundice onset, if available)  
09/2019