

Hepatitis A

Summary

Hepatitis A is an acute viral illness characterized by the abrupt onset of fever, malaise, jaundice, anorexia, and nausea in older children and adults. Children younger than 6 years old are usually asymptomatic or have a mild infection typically without jaundice. It is transmitted by the fecal-oral route from infected individuals or through contaminated foods or water. Chronic infection does not occur.

Persons at increased risk of spreading the disease include: food handlers, staff and attendees of child care centers or babysitting services, and persons providing direct patient care in hospitals, nursing homes, or institutions. Once a diagnosis is confirmed, decisions can be made as to the administration of hepatitis A vaccine or immune globulin to contacts.

Agent

Hepatitis A virus (HAV) is a member of the family Picornaviridae.

Mode of Transmission

Reservoir:

Humans are the primary reservoir; rarely chimpanzees and other primates.

Mode of Transmission:

Primarily direct person-to-person transmission by the fecal-oral route (poor hand washing or anal contact). Transmission in food may be the result of an infected food handler inadequately hand washing or improperly handling foods; this especially applies to foods that are not cooked or that are handled after cooking. Consumption of improperly prepared food such as shellfish taken from contaminated waters (especially raw or undercooked mollusks) or inadequately washed produce may also serve as modes of transmission. Additionally, ingestion of water contaminated by sewage may be a mode of transmission.

Period of Communicability:

Most infectious in 1-2 weeks before onset of jaundice or elevated liver enzymes through the first week after onset of jaundice.

Clinical Disease

Incubation Period:

15-50 days, with an average of 28 days.

Illness:

Illness caused by hepatitis A virus is characteristically acute and self-limited with the following signs and symptoms: fever, malaise, jaundice, anorexia, dark urine, nausea, severe stomach pains and diarrhea. The likelihood of having signs and symptoms with HAV infection is related to age. In children aged <6 years, 70% of infections are asymptomatic; if illness does occur, it is typically not accompanied by jaundice. Prolonged, relapsing hepatitis for up to six months occurs in 15% of cases; chronic hepatitis A is not known to occur. In general, clinical severity increases with age, but complete recovery is the norm. Fulminant hepatitis is rare but is more common in people with underlying liver disease.

Laboratory Diagnosis

Serologic testing to detect immunoglobulin M (IgM) antibody to the capsid proteins of HAV (IgM anti-HAV) is required to confirm a diagnosis of acute HAV infection.

Serum HAV-IgM is present at the onset of illness and usually disappears within four months but may persist up to six months, and therefore represents a current or recent infection.

False positives may occur and therefore, a diagnosis must meet case definitions listed below.

Treatment

Supportive.

Surveillance

Clinical case definition:

An acute illness with **a**) discrete onset of symptoms and **b**) jaundice, or elevated serum "liver enzymes" (e.g. aminotransferase levels) and does not have another likely explanation for the illness.

Laboratory criteria for diagnosis:

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

Case Definition Confirmed:

A clinically compatible case that 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 15-50 days before the onset of symptoms).

Reporting:

Report all cases of Hepatitis A to the Epidemiology and Response Division (ERD) at 505-827-0006 within 24 hours. Information needed includes: patient's name, age, sex, race, ethnicity, home address, home phone number, occupation, and health care provider.

Case Investigation:

Use the Acute Hepatitis A Investigation Form to complete the Investigation. Information should also be entered in NM-EDSS per established procedures.

Control Measures

1. Case Management

1.1. Isolation:

Determine whether the case is at high risk for transmitting the disease.

1.1 a High risk: Persons at increased risk of spreading the disease include:

1. Food handlers.
2. Staff and attendees of child care centers or babysitting services.

3. Persons providing direct patient care in hospitals, nursing homes, or institutions.

Exclude persons (children and adults) from high-risk settings until seven days after onset of jaundice or, in the absence of jaundice, for 14 days after the first appearance of symptoms. Readmission to a child care center *may* be allowed once Immune Globulin (IG) has been administered to appropriate children and staff.

4. Hospitalized patients: In addition to standard precautions, contact precautions are recommended for diapered and incontinent patients for one week after the onset of symptoms. The exception is an outbreak in a neonatal intensive care setting, where prolonged enteric precautions must be considered.

- 1.1 b No increased high risk: No exclusion is necessary. Provide health education that emphasizes thorough hand washing, mode of transmission, and period of communicability.
- 1.2. Prophylaxis: Not applicable.
- 2. Surveillance activities for hepatitis A evaluation:
 - 2.1. Institute surveillance of illness among household contacts, day care contacts, food handler coworkers, or health care coworkers.
 - 2.1.a Ask if others are thought to be ill with similar symptoms and, if so, inquire about possible common source exposures. Use the Hepatitis A Case Report Form to guide the interview.
- 3. Contact Management
 - 3.1. Isolation: Symptomatic contacts of hepatitis A patients should be excluded from food handling, direct care of infants, elderly, immunocompromised, and hospitalized or institutionalized patients. These high-risk contacts who are symptomatic should be referred to a health care provider for evaluation and possible testing for HAV IgM antibody.
 - 3.2. Prophylaxis: Prophylaxis should be provided to individuals whose last day of most recent exposure was two weeks or less. The efficacy of IG or vaccine when administered >2 weeks after exposure has not been established and therefore prophylaxis should not be administered if >2 weeks has elapsed since exposure. However, for individuals age 12 months and older, hepatitis A vaccine may be indicated for ongoing exposure.
 - 3.2.a Healthy persons aged 12 months - 40 years should receive prophylaxis with a single-antigen hepatitis A vaccine at the age-appropriate dose.
 - 3.2.b For persons aged >40 years, IG is favored because of the absence of information regarding vaccine performance and the more severe manifestations of hepatitis A in this age group. Vaccine can be used if IG cannot be obtained. The magnitude of the risk for HAV transmission from the exposure should be considered in decisions to use IG or vaccine. Persons administered IG for whom hepatitis A vaccine also is recommended for other reasons should receive a dose of vaccine simultaneously with IG. Persons >40 years of age who received HAV vaccine at least six months prior to their exposure should receive their second dose of vaccine. For immunocompromised persons and those with diagnosed chronic liver disease,

IG should be administered with vaccine. For persons who receive vaccine, the second dose should be administered per the licensed schedule to complete the series.

3.2.c IG should be used for: a) children aged <12 months; b) persons of any age who are immunocompromised or who have had chronic liver disease diagnosed; and c) persons for whom vaccine is contraindicated. True contraindications and precautions for HAV vaccine are: a) severe allergic reaction to a vaccine component or following a prior dose; b) moderate or severe acute illness.

3.2.d Prophylaxis is indicated as follows:

Household, sexual, drug-using and other close personal contacts

All previously unvaccinated and asymptomatic close personal contacts to a hepatitis A case should receive either IG (0.02 mL/kg) or single-antigen hepatitis A vaccine (per guidelines above). This includes household and sex contacts, and persons who have shared illicit drugs with someone with hepatitis A. Consideration should be given to providing IG or hepatitis A vaccine per above guidelines to persons with other types of ongoing, close personal contact (e.g., a regular babysitter or caretaker).

Newborn infants of HAV- infected mothers

Perinatal transmission of HAV is rare. Some experts advise giving IG to the infant if the mother's symptoms began between two weeks before and one week after delivery.

Management of hepatitis A in child care centers

When a case of hepatitis A is reported in an attendee or staff member at a child care facility or if cases are recognized in two or more households of center attendees, the following recommendations apply:

- Notify the child care director that a case has occurred and provide education about the disease transmission. Conduct surveillance at the facility. If symptomatic contacts are identified, refer them to a healthcare provider for evaluation. If a symptomatic person meets the clinical case definition, then that individual is considered an epi-linked confirmed case. Consider laboratory testing of the epi-linked confirmed case for hepatitis A and identify their contacts for prophylaxis.
- In centers that do *not* provide care to children who wear diapers, single-antigen hepatitis A vaccine or IG should be given in a dose of 0.02 ml/kg to all previously unvaccinated staff in contact with the case and all children in the same classroom and exposed to the case.
- If the center admits children in diapers, single-antigen hepatitis A vaccine or IG should be given to *all* unvaccinated and exposed children and staff in the center and to all new unvaccinated admissions and new unvaccinated employees for six weeks after the last case at the center. Children and staff who have received at least one dose of hepatitis A vaccine administered at the appropriate age based on the formulation used are considered adequately vaccinated, and do not require IG. Refer to the American Academy of Pediatrics. Pickering LK, ed. 2015 Red Book: Report of the Committee on Infectious Diseases. 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015 for further details on vaccine formulations and recommended age of administration.

- When an outbreak occurs, single-antigen hepatitis A vaccine or IG also should be considered for members of households that have children (center attendees) in diapers.

Schools

School exposure generally does not pose an appreciable risk of infection, and prophylaxis is not indicated when a single case occurs unless behavior defined as close contact (see above) with a confirmed case is documented. However, prophylaxis could be used if transmission within the school setting is documented. Hepatitis A vaccine may also be considered in this situation.

Institutions and hospitals

In institutions for custodial care with an outbreak of HAV infection, residents and staff in close personal contact with infected patients should receive prophylaxis. Administration of prophylaxis to hospital personnel caring for patients with hepatitis A is not indicated routinely, unless an outbreak among patients or between patients and staff is documented. For persons receiving IG for prophylaxis, hepatitis A vaccine can be considered if repeated exposure is anticipated.

Management of Hepatitis A in a Food Establishment

When a case of hepatitis A is reported in a food handler, the following recommendations apply:

- ERD will contact the New Mexico Environment Department (NMED) or other appropriate environmental agency, depending on jurisdiction, immediately to coordinate inspection of the establishment where the patient is employed.
- Notify the food establishment's manager that a case has occurred and provide education about the disease transmission.
- Conduct a site visit. The site visit should include an inspection by the appropriate environmental agency (and interview by NMDOH which may or may not be on site) about the case's work station, job duties, schedule, and work habits.
- Conduct surveillance at the establishment. Institute surveillance for illness among all employees for the maximum duration of the incubation period. Assess illness among food handlers (including dates of illness, signs/symptoms, and work duties.) Each food handler should be interviewed individually and in private to obtain this information.
- Prophylaxis should be administered to all exposed, previously unvaccinated and asymptomatic employees in the food establishment.
- Perform interviews and serological testing on symptomatic employees.
- Make preliminary disease control recommendations (e.g., restricting symptomatic food handlers from working, closing a restaurant) in collaboration with environmental authority per jurisdiction.
- Evaluate the need for prophylaxis of patrons of the food establishment. Common-source transmission to patrons is unlikely, and therefore prophylaxis administration to patrons typically is not indicated but may be considered if 1) during the time when the food handler was likely to be infectious, the food handler both directly handled uncooked foods or foods

after cooking and had diarrhea or poor hygienic practices, and 2) patrons can be identified and treated <2 weeks after the exposure. In settings in which repeated exposures to HAV might have occurred (e.g., institutional cafeterias), stronger consideration of prophylaxis might be warranted. Consult with ERD for specific recommendations.

Common-source exposure

These outbreaks are often recognized too late for prophylaxis to be effective in preventing hepatitis A in exposed people. However, prophylaxis can be considered if it can be administered to exposed people within two weeks of the last exposure to the HAV-contaminated food or water. ERD recommends that all food handlers exposed to HAV within a food establishment receive prophylaxis.

Note: An unvaccinated employee in a high-risk setting who refuses prophylaxis should be excluded from high risk job duties until 50 days from the last exposure to the case.

4. Prevention

- 4.1. Education: Provide health education, reviewing transmission and communicability and emphasizing the importance of hand washing.
- 4.2. Immunization: HAV vaccine is recommended for people 12 months through 40 years of age for post-exposure prophylaxis and international travel. Updates for vaccination now include people traveling from the US to countries with high or intermediate HAV endemicity, and household members and other close personal contacts (e.g., regular child sitters) of adopted children newly arriving from countries with high or intermediate HAV endemicity. Hepatitis A vaccine is recommended for persons in high-risk groups including: persons at increased risk for HAV infection (persons with chronic liver disease or clotting factor disorders, men who have sex with men, injecting drug users, all susceptible persons traveling to countries where HAV is endemic, and persons who work with primates). In New Mexico, hepatitis A vaccine is recommended for all children beginning at 2 years of age. Since New Mexico initiated a targeted immunization program for hepatitis A in counties with historically high rates, rates have dropped dramatically.

References

American Academy of Pediatrics. In: Kimberlin, DW, et al eds. Red Book: 2018 Report of the Committee on Infectious Diseases. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018.

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See Hepatitis A Fact Sheets ([English](#)) ([Spanish](#)).