



Management of Hepatitis A and B

Adult and Youth

April 1, 2022

Indiana Department of Correction
Health Services Division

I. Purpose

This manual addresses the management of the viral Hepatitis A and B. In accordance with national correctional health care standards, this plan includes procedures for:

- Identification;
- Surveillance;
- Immunization (when applicable);
- Treatment (when indicated);
- Follow-up; and,
- Isolation (when indicated).

II. Definition of Viruses

Hepatitis A and Hepatitis B are diseases caused by two different viruses. Although each can cause similar symptoms, they have different modes of transmission and can affect the liver differently.

III. Hepatitis A (HA)

HA is a highly contagious liver infection caused by the Hepatitis A Virus (HA Virus). HA is vaccine preventable. HA Virus is found in stool and blood of people that are infected. HA is easily spread through close personal contact with a person living with HA Virus or through ingesting contaminated food or drink. HA does not cause a chronic infection, and although a small number of infected individuals take many months to clear it, for otherwise healthy individuals HA is not a fatal infection. HA rarely causes death. Furthermore, HA is a typically one-time infection; immunity to HA is thought to be lifelong after the virus has been cleared.

The accompanying figure (from the CDC) summarizes characteristics of HA.

Figure 1: Hepatitis A

SIGNS & SYMPTOMS	Adults will have signs and symptoms more often than children.	
	<ul style="list-style-type: none">• Fever• Fatigue• Loss of appetite• Nausea• Vomiting	<ul style="list-style-type: none">• Abdominal pain• Dark urine• Clay-colored bowel movements• Joint pain• Jaundice (a yellowing of the skin or eyes)

CAUSE	<ul style="list-style-type: none"> • Hepatitis A virus (HAV)
LONG-TERM EFFECTS	<ul style="list-style-type: none"> • There is no chronic (long-term) infection. • Once a patient has had hepatitis A the patient cannot get it again.
TRANSMISSION	<ul style="list-style-type: none"> • HAV is found in the stool (feces) of persons with hepatitis A. • HAV is usually spread from person to person by putting something in the mouth (even though it may look clean) that has been contaminated with the stool of a person with hepatitis A.
PERSONS AT RISK OF INFECTION	<ul style="list-style-type: none"> • Travel to or live in countries where Hepatitis A is common • Men who have sexual contact with other men • Use illegal drugs, whether injected or not • Have clotting-factor disorders, such as hemophilia • Live with someone who has Hepatitis A • Have oral-anal sexual contact with someone who has Hepatitis A • Incarcerated individuals
PREVENTION	<ul style="list-style-type: none"> • Hepatitis A vaccine is the best protection. • Short-term protection against hepatitis A is available from immune globulin. It can be given before and within 2 weeks after coming in contact with HAV. • Everyone should wash their hands with soap and water after using the bathroom, changing a diaper, and before preparing and eating food.

A. Identification

All patients with symptoms of HA Virus shall be tested.

Persons whose liver enzymes suggest the presence of hepatitis have HA infection routinely ruled out during work up.

B. Surveillance

Surveillance for HA is carried out by the IDOH; all identified cases are reported to the IDOH using State Form 43823, "Confidential Report of Communicable Diseases."

C. Immunization

All patients will be offered the HA vaccine at time of intake. In order for a patient to be eligible for kitchen work they must be vaccinated for HA virus.

D. Treatment

During acute infection, HA is infectious via stool contamination. Proper treatment of HA patients includes exclusion from roles (such as food handling) in which HA can be spread until infectiousness is past. Because of the physiology of sex, patients should be advised regarding safer sex practices which are less likely to spread HA.

Except in the setting of concurrent liver disease, HA infection requires only supportive therapy.

E. Follow-up

Once HA infection is completely cleared by the patient's immune system, no additional patient follow up is required.

F. Isolation

Isolation is required in the acute phase of Hepatitis A (HA). An infirmary single cell/room is recommended. All persons found to be living with HA Virus shall be removed from assignments in which fecal-oral contamination could present a risk to others (for example, kitchen work). Isolation is required in the acute phase of Hepatitis A (HA). An infirmary single cell/room is recommended.

IV. **Hepatitis B (HB)**

HB is a vaccine preventable infection caused by a blood borne virus that can be transmitted by blood or other body fluids, and is spread easily through sexual contact, sharing needles, and can be passed from mother to baby at birth.

HB sometimes causes a subclinical infection, but even when infection is noted, the large majority of patients living with HB clear the infection completely without any specific treatment. These individuals have acute Hepatitis B. A small percentage of adult patients living with HB will develop chronic Hepatitis B when the infection lasts longer than 6 months. Individuals living with chronic HB are susceptible to the development of cirrhosis and/or hepatocellular carcinoma.

The accompanying figure (from the CDC) summarizes characteristics of HB.

Figure 2: Hepatitis B

SIGNS & SYMPTOMS	Some individuals will have no signs or symptoms. Signs and symptoms are less common in children than adults.	
	<ul style="list-style-type: none"> • Fever • Fatigue • Loss of appetite • Nausea • Vomiting • Abdominal pain 	<ul style="list-style-type: none"> • Dark urine • Clay-colored bowel movements • Joint pain • Jaundice (yellow color in the skin or the eyes)
CAUSE	<ul style="list-style-type: none"> • Hepatitis B virus (HBV) 	
LONG-TERM EFFECTS WITHOUT VACCINATION	<ul style="list-style-type: none"> • The likelihood of developing chronic Hepatitis B depends upon the age at which someone becomes infected. The younger a person is when infected with Hepatitis B virus, the greater his or her chance of developing chronic Hepatitis B. Approximately 90% of infected infants will develop chronic infection. The risk goes down as a child gets older. Approximately 25%–50% of children infected between the ages of 1 and 5 years will develop chronic hepatitis. The risk drops to 6%–10% when a person is infected over 5 years of age. 	
TRANSMISSION	<p>Hepatitis B is spread when blood, semen, or other body fluid infected with the Hepatitis B virus enters the body of a person who is not infected. People can become infected with the virus during activities such as:</p> <ul style="list-style-type: none"> • Birth (spread from an infected mother to her baby during birth) • Sex with an infected partner • Sharing needles, syringes, or other drug-injection equipment • Sharing items such as razors or toothbrushes with an infected person • Direct contact with the blood or open sores of an infected person • Exposure to blood from needle sticks or other sharp instruments 	
RISK GROUPS	<ul style="list-style-type: none"> • Have sex with an infected person 	<ul style="list-style-type: none"> • Live with a person who has chronic Hepatitis B

	<ul style="list-style-type: none"> • Have multiple sex partners • Have a sexually transmitted disease • Are men who have sexual contact with other men • Inject drugs or share needles, syringes, or other drug equipment 	<ul style="list-style-type: none"> • Are infants born to infected mothers • Are exposed to blood on the job • Are hemodialysis patients • Travel to countries with moderate to high rates of Hepatitis B
PREVENTION	<ul style="list-style-type: none"> • Hepatitis B vaccine is the best protection. • Safe sex (proper use of latex condoms and other barriers) may reduce the likelihood of transmission. • Pregnant women should be tested for hepatitis B; • Intravenous drug users should be encouraged to stop injecting; Persons who continue to inject drugs should not share works and should utilize safe practices including not sharing their works and using bleach to kill virus inside used works. • Personal care items that might have blood on them (razors, toothbrushes, etc) should not be shared. • Practices that can introduce hepatitis B virus through the skin (tattoos, piercing, etc.) should be avoided. • Universal Precautions should be practiced at all times. 	

A. Identification

The Department does not routinely screen for the presence of HB infection. HB infection is usually identified on clinical grounds when persistent elevated liver enzymes are noted and a work up is carried out. Chronic HB infection is identified by the persistent finding of Hepatitis B Surface Antigen in the blood.

B. Surveillance

Surveillance for HB is carried out the by IDOH; all identified cases are reported to the IDOH using the State Form 43823, "Confidential Report of Communicable Diseases."

C. Immunization

HB vaccination is offered to all students through the Vaccines for Children Program (CHIRP), and to all patients who will have "a reasonably likelihood of exposure to blood or other potentially infectious material" through their work assignments. In addition,

patients living with HC or who are living with certain other health conditions should be offered HB vaccination unless the attending physician determines that it should not be provided.

HB vaccination is offered to all employees who will have reasonably anticipated exposure to blood or other potentially infectious materials through their employment.

Universal Precautions (UP) are advised in all circumstances; employees, offenders, and students are instructed in UP.

D. Treatment

Management of acute HB infection requires only monitoring and minor supportive therapy; most who are infected have subclinical infections and most infected persons clear the infection without sequelae. The development of severe hepatocellular necrosis is potentially fatal, and persons who experience this complication may require inpatient or even hospital care.

Chronic HB infection is, at least compared to HC infection, relatively rare. Patients living with chronic Hepatitis B should be monitored regularly for signs of liver disease and treated according to current Evidence-Based Guidelines. Determination of the appropriate way to manage this group of patients is best left to the treating physician in consultation with specialists.

Patients living with HB should be educated regarding the nature of HB transmission and its avoidance, and regarding the management of chronic HB.

E. Follow-up

Patients living with acute HB infection must be followed in the chronic care clinics to determine if their infections are cleared or become chronic.

F. Isolation

No isolation is required in the management of HB infection.

SIGNS & SYMPTOMS	70 to 80% of persons have no signs or symptoms.	
	<ul style="list-style-type: none"> • Fever • Fatigue • Dark urine • Clay-colored stool • Abdominal pain 	<ul style="list-style-type: none"> • Loss of appetite • Nausea • Vomiting • Joint pain • Jaundice
CAUSE	<ul style="list-style-type: none"> • Hepatitis C virus (HCV) 	
LONG-TERM EFFECTS	<p>Of every 100 persons infected with HCV, approximately</p> <ul style="list-style-type: none"> • 75–85 will go on to develop chronic infection • 60–70 will go on to develop chronic liver disease • 15–25 will go on to clear the virus spontaneously and not develop a chronic infection • 5–20 will go on to develop cirrhosis over a period of 20–30 years • 1–5 will die from the consequences of chronic infection (liver cancer or cirrhosis) 	
TRANSMISSION	<ul style="list-style-type: none"> • HCV is transmitted primarily through large or repeated percutaneous (i.e., passage through the skin) exposures to infectious blood. Individuals at risk include: • Current or former injection drug users, including those who injected only once many years ago • Recipients of clotting factor concentrates made before 1987, when more advanced methods for manufacturing those products were developed • Recipients of blood transfusions or solid organ transplants before July 1992, when better testing of blood donors became available • Chronic hemodialysis patients • Persons with known exposures to HCV, such as <ul style="list-style-type: none"> ○ health care workers after needle sticks involving HCV-positive blood ○ recipients of blood or organs from a donor who tested HCV-positive • Persons with HIV infection • Children born to HCV-positive mothers 	

PREVENTION	<ul style="list-style-type: none"> • There is no vaccine to prevent Hepatitis C. • Injection drug abuse should be discouraged; persons who continue to inject should be cautioned about sharing works and instructed regarding the use of bleach to destroy the Hepatitis C virus in used works. • Personal care items that might have blood on them (razors, toothbrushes) should not be shared. • Practices that can introduce hepatitis C virus through the skin (tattoos, piercing, etc.) should be avoided. • Universal Precautions should be practiced at all times.
TREATMENT & MEDICAL MANAGEMENT	<ul style="list-style-type: none"> • HCV positive persons should be evaluated by their primary care provider for liver disease. • Attempts to eradicate HC infection through the use of medications may be appropriate. • Alcohol should be avoided by all persons with viral hepatitis.