

## **Hepatitis B Virus**

### **What is hepatitis B virus (HBV)?**

Hepatitis B is a disease caused by the hepatitis B virus which infects the liver. Formerly, hepatitis B was called serum hepatitis. In children, the disease may be mild, but adults can have more severe illness that may cause death. Long-term infection can occur and may result in liver disease or cancer.

### **How is hepatitis B spread?**

The hepatitis B virus is usually spread through sexual activity or contaminated blood. It can also be spread through close household contact and from infected mothers to their infants at birth. Other common ways hepatitis B is spread include:

- injection drug use that involves sharing needles, syringes, or drug-preparation equipment
- contact with blood or open sores of an infected person
- needle sticks or sharp instrument exposures
- sharing items such as razors or toothbrushes with an infected person

### **What are the symptoms of hepatitis B?**

The presence of signs and symptoms varies by age. Most children under age five years and newly infected immunosuppressed adults are asymptomatic, whereas, 30-50% of persons aged  $\geq 5$  years have initial signs and symptoms. When present, signs and symptoms can include:

- fever
- fatigue
- loss of appetite
- nausea
- vomiting
- abdominal pain
- dark urine
- clay-colored bowel movements
- joint pain
- jaundice (yellow skin/eyes)

Persons with chronic HBV infection might be asymptomatic, have no evidence of liver disease, or have a spectrum of disease ranging from chronic hepatitis to cirrhosis or hepatocellular carcinoma (a type of liver cancer).

### **Are certain people at risk of getting hepatitis B?**

The following populations are at increased risk of becoming infected with HBV:

- infants born to infected mothers
- sex partners of infected persons
- sexually active persons who are not in a long-term, mutually monogamous relationship
- men who have sex with men
- injection drug users
- household contacts of persons with chronic HBV infection
- healthcare and public safety workers at risk for occupational exposure to blood or blood-contaminated body fluids
- hemodialysis patients
- residents and staff of facilities for developmentally disabled persons
- travelers to countries with intermediate or high prevalence of HBV infection

### **What is the treatment for hepatitis B?**

For acute infection, no medication is available; treatment is supportive.

For chronic infection, several antiviral drugs (adefovir dipivoxil, interferon alfa-2b, pegylated interferon alfa-2a, lamivudine, entecavir, and telbivudine) are available. Persons with chronic HBV infection require medical evaluation and regular monitoring to determine whether disease is progressing and to identify liver damage or hepatocellular carcinoma.

### **How can hepatitis B be prevented in the healthcare setting?**

The delivery of health care has the potential to transmit hepatitis B virus (HBV) and hepatitis C virus (HCV) to both healthcare workers and patients. Outbreaks of HBV and HCV infection have occurred in outpatient settings, hemodialysis units, long-term care facilities, and hospitals, primarily as a result of unsafe injection practices; reuse of needles, finger stick devices, and syringes; and other lapses in infection control. To prevent transmission of bloodborne pathogens, healthcare workers should adhere to recommended standard precautions and fundamental infection control principles, including safe injection practices and appropriate aseptic techniques.

For continued protection, the Advisory Committee on Immunization Practices (ACIP) recommends that healthcare and public safety workers with reasonably anticipated risk for exposures to blood or infectious body fluids receive the complete hepatitis B vaccine series and have their immunity documented through post vaccination testing.

Healthcare workers should receive a three-dose series of the hepatitis B vaccine. Dose one, then approximately one month later dose two, and approximately five months after dose two, dose three should be given. Test for the hepatitis B surface antibody should be done 1-2 months after dose three to document immunity.

Healthcare personnel vaccination recommendations (including hepatitis B) are available at: <http://www.immunize.org/catg.d/p2017.pdf>.

For more information regarding hepatitis B, visit the following resources:

- <http://www.cdc.gov/hepatitis/HBV/index.htm>
- <http://www.cdc.gov/hepatitis/Settings/HealthcareSettings.htm>
- <http://www.cdc.gov/hepatitis/Resources/Professionals/PDFs/ABCTable.pdf>