



Hepatitis B is an infectious liver disease caused by the hepatitis B virus (HBV). Approximately 350 to 400 million people have been infected with hepatitis B worldwide. Over 600,000 deaths are attributed to hepatitis B worldwide each year. There are an estimated 1.25- 2.0 million chronically infected Americans, of whom 20% to 30% acquired their infection in childhood. More than 95% of adults recover spontaneously within 6 months; however, 90% of young children who get infected with HBV never clear the virus, remaining chronically infected with an increased risk of cirrhosis (extensive scarring of the liver) and liver cancer. An estimated 35,000 new cases occur each year in the U.S. and about 3000-5000 deaths annually are related to HBV infections and resultant cirrhosis and liver cancer. *Safe and effective vaccines can prevent hepatitis B.*

TRANSMISSION

Transmission of HBV can occur when blood or body fluids from an infected person enter the body of a person who is not immune, in the same way as HIV, the virus that causes AIDS. HBV is 100 times more infectious than HIV. The highest concentrations of HBV are found in blood, semen, and vaginal secretions. HBV is not spread through food or water, sharing eating utensils, breastfeeding, hugging, kissing, coughing, sneezing, or by casual contact. The virus is infrequently transmitted by blood transfusions because blood for transfusion is now tested for HBV contamination by highly sensitive assays. The majority of reported acute HBV infections in the United States are among adolescents and young adults (ages 20 to 49 years). Sexual contact is the most common means of transmission. Examples of possible transmission modes include:

- Sexual contact with an infected person without using a latex condom;
- Sharing drugs, needles, syringes, water, or “works” when “shooting” drugs;
- Getting an injury through needle sticks or sharps that may be contaminated;
- Infected mother to her baby during birth;
- Tattooing, body piercing, and acupuncture by virus-contaminated instruments;
- Sharing of toothbrushes, razors or other personal care items that may have blood on them.

The following groups are at risk:

- Asian-Americans
- Persons with multiple sex partners or with a diagnosis of a sexually transmitted disease;
- Men who have sex with men;
- Sexual contacts of infected persons;
- Injecting drug users;
- Household contacts of chronically infected persons;
- Infants born to infected mothers;
- Infants and children of immigrants from areas with high rates of HBV infection;
- Health care and public safety workers;
- Hemodialysis patients;

SYMPTOMS

During early infection, about 70% of adults will have no symptoms or few symptoms. Significant symptoms develop in the remaining 30% of acute cases of hepatitis B and include jaundice (yellowing of the skin and eyes), light colored stools, and dark urine. Other possible symptoms include fatigue, abdominal pain, loss of appetite, nausea, vomiting, and joint pain. Infrequently, acute hepatitis B infection results in acute liver failure, which if not treated with liver transplantation, may be fatal.

DIAGNOSIS

The only way to know if you are currently infected with HBV, have had the infection and recovered, or if you are chronically infected, is to ask your doctor to test you for hepatitis B. Testing might include:

- **HBsAg (hepatitis B surface antigen):** When this is positive, it means you are currently infected with HBV and are able to pass the infection on to others.
- **Anti-HBc (antibody to hepatitis B core antigen):** When this is positive or reactive, it means that you have HBV infection or had it at some time in the past.
- **Anti-HBs (antibody to hepatitis B surface antigen):** When this is positive, it means that you are *immune* to HBV infection, either from vaccination or from past infection and cannot pass the disease on to others.
- **IgM anti-HBc:** When this is positive or reactive, it indicates recent infection with HBV.

TREATMENT

Treatment is not warranted during the acute phase of hepatitis B as the disease will resolve in most people within a six month period. However, a number of oral drugs, including lamivudine, telbivudine, entecavir, and tenofovir have been used in severe acute hepatitis B with conflicting results. If you are chronically infected you should be evaluated by your doctor for treatment options. First-line options available for treating chronic hepatitis B include entecavir, tenofovir, and pegylated interferon. Currently, there is no cure for HBV but prolonged suppression of the virus results in reduced disease progression and mortality. Drinking alcohol can worsen your liver disease and should be avoided.

PREVENTION

- Hepatitis B vaccine is the best protection.
- Safe and effective Hepatitis B vaccines have been available since 1982.
- A combined vaccine for hepatitis A and B is available for those over 18 years of age.
- Routine vaccination is recommended for young people aged 0 to 18 years.
- Vaccination is also recommended for risk groups of all ages (see risk groups above).
- The usual dosage is three injections given over a 6 months period.
- If you are having sex with more than one steady partner use latex condoms correctly and every time to reduce the potential for infection.
- If you are pregnant, you should get a blood test for hepatitis B (HBsAg). Infants born to HBV-infected mothers should be given hepatitis B immune globulin and vaccine within 12 hours after birth. Treatment at the end of the second or beginning of the third trimester of those pregnant women with high levels of virus with one of the oral anti-HBV drugs may also reduce the risk of maternal-neonatal infection.
- Do not shoot drugs. If you can't stop, never share drugs, needles, syringes, water, or "works," and get vaccinated against hepatitis A and hepatitis B (if not already infected), and get into a treatment program.
- Do not share personal-care items that might have blood on them (e.g., razors, toothbrushes).
- Assess the risk you are taking when getting a tattoo or body piercing. The tools being used may have someone else's infected blood on them.
- If you have or had hepatitis B, do not donate blood, organs, or tissue.
- If you are injecting drugs, make sure the tools you are using are sterile and don't share with others.

If you are a health care or public safety worker, get vaccinated against hepatitis B, always follow routine barrier precautions, and handle needles and other sharps safely.