



A Union of Professionals

Health and Safety Program

HEPATITIS B ALERT

What Is Hepatitis B?

Hepatitis B, or serum hepatitis, is a serious disease of the liver caused by the Hepatitis B virus (HBV). There is a silent epidemic of Hepatitis B in this country. Nearly 300,000 new infections are reported every year. Approximately 12,000 healthcare workers are infected every year due to a work-related exposure. About 500 to 600 of these healthcare workers require hospitalization for their infection, and 200 will die.

How Is It Transmitted?

The Hepatitis B virus is a bloodborne virus that is transmitted in the same fashion as the AIDS (HIV) virus, through sexual intercourse. However, HBV is far more concentrated in an infected person's bloodstream than HIV; and unlike HIV, HBV can survive for periods of one week or more outside the human body (e.g., in dried blood).

An infected patient, resident or inmate can shed this virus in blood, semen, vaginal fluids and saliva. In a healthcare setting, HBV is easily transmitted through needlestick injuries with a contaminated needle; the splashing of blood in the eye or on other mucous membranes; or through an open cut or abraded skin. Transmission through a deep human bite has also been documented.

What Are the Symptoms?

Infectious persons do not always exhibit symptoms of disease. About 50 to 60 percent of infected persons have mild symptoms or none at all. **The time lapse between exposure and onset of symptoms (incubation) is generally seven to 23 weeks.** About 30 percent to 40 percent of all infected adults develop a serious condition with symptoms of fatigue, loss of appetite, weakness, jaundice (yellow appearance to the skin), liver enlargement and tenderness. Between one to three percent of these people will die from infection.

Special Concerns:

1. **Chronic Carrier State.** Some infected people (as many as five to 10 percent) become chronically infected. Although their symptoms subside or go away, these individuals continue to have active virus in their bodies. These chronic carriers of HBV are at high risk of cirrhosis of the liver and liver cancer.
2. **Infected pregnant women can pass HBV to their newborns.** One study found that 90 percent of infants born to highly infected mothers become chronic carriers and therefore are at higher risk of liver cancer.
3. **Persons infected with Hepatitis B may be at risk of co-infection with Delta Hepatitis (HDV).** HDV cannot infect a cell by itself and requires the presence of Hepatitis B virus (HBV). HDV either co-infects the cell with HBV or may infect (superinfect) persons who are chronically infected with HBV.

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The symptoms of delta hepatitis are identical to Hepatitis B; however, they are usually more severe and onset is faster. About 25 percent to 30 percent of the most severe cases of hepatitis B are now thought to be caused by co-infection or superinfection with HDV. HDV may be self-limiting, as is Hepatitis B, or it may progress to chronic hepatitis.

How Can Healthcare Workers Protect Themselves?

There are three important ways that healthcare workers can protect themselves from exposure and infection with HBV and HDV.

First and foremost, healthcare workers who are exposed to blood and body fluid should consider being vaccinated against hepatitis B. The vaccine is administered in three doses over a six-month period. The recommended dose is 10 ug (1 ml) administered intramuscularly in each of the three inoculations.

The original licensed vaccine was a plasma-derived vaccine from pooled serum of individuals who have been infected. Rumors that plasma-derived vaccine might carry the HIV virus discouraged many healthcare workers from being vaccinated. Lab studies showed that inactivating processes used in the production of plasma-derived vaccines were sufficient to inactivate all human retroviruses including HIV. In any event, plasma-derived vaccine is no longer manufactured in the United States.

Two synthetic vaccines made from yeast are currently available, Recombivax-HB and Engerix-B. The new OSHA Bloodborne Pathogen Standard stipulates that all at-risk healthcare workers are entitled to vaccination free of charge.

Second, unvaccinated healthcare workers who sustain a significant exposure to blood and body fluids (e.g., needlestick or mucous membrane contact) should have a single dose of HBIG (hepatitis B immunoglobulin)--0.06 ml/kg--as soon as possible after the exposure, at least within 24 hours. Exposed healthcare workers should also be offered the vaccine series. If active immunization is refused, a second dose of HBIG should be given a month later.

A healthcare worker is entitled to this post-exposure treatment through the OSHA Bloodborne Pathogen Standard.

Third, healthcare workers should follow the Centers for Disease Control (CDC) universal precaution guidelines to prevent exposure to blood and body fluids. The OSHA Bloodborne Pathogen Standard mandates that workers receive training on universal precautions as well as all personal protective equipment to prevent exposure.

For more information, contact the AFT Healthcare Occupational Safety and Health Program at 202/393-5674.